THE GARDEN.

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NOTES OF THE WEEK

On page 8 will be found a list of Potatoes just issued by the Board of Agriculture that are immune from wart disease and recommended for planting in 1917. These varieties alone are permitted to be grown on land known to be infected, and in most cases the variety is accompanied by the name of the dealer able to supply such tubers, both valuable steps in the direction which it seems best to follow. It will be observed that the list of varieties highly susceptible to wart disease includes such well-known early and maincrop Potatoes as Midlothian Early, Sharpe's Express, King Edward VII., Up-to-Date, Arran Chief and The Factor. These and other varieties named cannot be planted on infected premises, while it is illegal to plant any Potatoes on infected premises except with the licence of the Board of Agriculture.

Early Potatoes Under Glass.—With the primary object of encouraging the Lea Valley nurserymen and market gardeners to proceed with what is acknowledged to be an unprofitable undertaking, Mr. A. B. Lister, D.I.C., B.Sc., Director of the Experimental and Research Station at Cheshunt, has drawn up a pamphlet entitled "Hints on the Culture of Early Potatoes Under Glass." The pamphlet contains much useful information on soil preparation and manuring, sprouting and planting. Copies of the leaflet may be had on application to Mr. Lister.

Suspended Publication of the "Gardeners' Magazine."—With the last issue in the Old Year the *Gardeners' Magazine*, one of the oldest of gardening papers, ceased publication for the present. This decision was arrived at by the proprietors of our contemporary in view of "increasing expenditure, a diminishing revenue from advertisements, and with little prospect of early improvement in either direction."

The Largest Milk Vetch (Astragalus maximus).—Those who have wide borders might try Astragalus maximus. This is a very handsome, robust growing species with massive spikes of yellow flowers. We always admire a fine clump of it which grows in the Astragalus bed at Kew. It is easily raised from seed, but our plants seem slow in reaching the noble dimensions of the Kew specimen.

A Dwarf Moræa.—The accompanying illustration of Moræa papilionacea depicts a little-known bulbous plant from the Cape, which is said to have been first introduced to this country in 1795. It is figured in the *Botanical Magazine*, t. 750, published in 1804. Attached to the photograph, sent by a Cape Town reader, is the following note: "A very beautiful but delicate flower, found in several tints from pale yellow to bright orange and pink, with chocolate markings in the centre. The Moræas are closely allied to the Iris family. This is one of the smallest growing, being only some 3 inches to 6 inches high, and the flowers are pleasingly fragrant. Thunberg describes it as abundant in sandy spots near Cape Town."

MORÆA PAPILIONACEA, "ABUNDANT IN SANDY SPOTS NEAR CAPE TOWN."

Retirement of Mr. W. H. Divers, V.M.H.—We learn that Mr. W. H. Divers of Belvoir Castle Gardens is about to retire from the position he has held with marked ability for twenty-three years. The gardens are renowned for their charming spring effects, and the exquisite "Duchess'" garden was the subject of an illustrated article in The Garden of April 22, 1916. Mr. Divers was honoured with the Victoria Medal of Honour in 1912. We are indebted to him for the particulars and illustration of Mistletoe growing on a Pear tree which appeared in last week's issue. His new address will be West Dean, Hook, near Surbiton, Surrey, only half an hour's journey from Westminster. We hope Mr. Divers will enjoy his well-earned retirement for many years to come.

The Will of Mr. N. N. Sherwood, J.P.—Mr. Nathaniel N. Sherwood of Prested Hall, Kelvedon, Essex, who died on July 20, 1916, left estate of the gross value of £514,949. The testator gives £500 each to the Gardeners' Royal Benevolent Institution, the Royal Gardeners' Orphan Fund and the Princess Frederica's Home for Gentlewomen. The executors of his will are Mr. Sherwood's sons, Edward and William, and Mr. C. J. Parton (solicitor). To the last named he gives £500; £200 is given to Dr. Leedham Fuller; £300 each to T. W. N. Cox, business manager, and William Cox; £200 to John Kay, in his employ; £50 to each employé of thirty years', £40 to each employé of twenty years', and £10 to each employé of ten years' service; £20 to his coachman, May; £20 to his gamekeeper, Hunt; and an annuity of £100 to his housekeeper, Miss Hopkins. For many years Mr. Sherwood was head of the large wholesale seed firm of Messrs. Hurst and Sons of Houndsditch, and the volume of The Garden for 1912 is dedicated in his honour.

Fuchs and Technical Terms.—It is one of the most obvious truisms that every science and every calling gathers to itself in the course of time a collection of technical terms which are worse than "double Dutch" to the outside public. How few except tailors themselves could point to the "tailor's thumbs" on a private's thick khaki overcoat. So it is with botany. Only botanists know the meaning of the many technical words and expressions, such as "micropyle" and "true respiration of plants"; but, gardening and botany being so closely related, a fair number of these have become common property, although it must be confessed that the gardener is often a little too lax in his usage of many of them, and calls a Strawberry a fruit and a Crocus a bulb. The first list of botanical technical terms appeared in the Latin edition of Fuchs' "Historia Stirpium," published in 1542.

**** Owing to the shortage of paper, readers who have not already done so are asked to order* The Garden *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Mistletoe on Oak.—With regard to the note on page 620, December 30 last, it must be remembered that the American Mistletoe is Phoradendron flavescens and not our Viscum album. The American plant differs from ours in having its flowers and the succeeding berries on jointed spikes bearing five or more, instead of the sessile group of three at most of our familiar plant.—E. A. BOWLES.

Mistletoe on the Pear.—I was much interested in the excellent illustration in last week's issue of THE GARDEN of Mistletoe growing on a Pear tree. It seems not unlikely that this plant was sown by the hand of man, but it would be interesting to hear of any authentic instances of its occurrence on Pear through the agency of a bird. Mistletoe is very abundant in the orchards of Worcestershire and Herefordshire, but I have never seen it there on a Pear tree. Robinia is not uncommon as a host, and it frequently grows on Lime, Poplar, Maple and Hawthorn. I once found it on a Hazel in an out-of-the-way spot in Herefordshire, and was told of another on Hazel near Malvern. The most curious host on which I have seen it was a Dog Rose, and I have recently been told of a specimen on Cotoneaster. Does it ever occur on the Elm? I believe Mistletoe Elms are extremely rare, if they really exist at all. There is a fine Mistletoe Oak on the Shropshire bank of the little stream which separates that county from Worcestershire, and another well-known tree in Eastnor Park in Herefordshire.—N. G. HADDEN.

Nerine Description.—After what I wrote in THE GARDEN on page 549, November 11, 1916, about Nerines, I had a long talk with Mr. J. T. Bennett-Poë, a famous grower and lover of this beautiful race, about good names by which to describe the two very distinctive types of flower which are to be found in, say, corusca major, Fothergillii major and Lady Mary Shelley, and those with pudica blood in their veins, like Novelty. He made the excellent suggestion that they should be called "Azalea-flowered." This is better than what I proposed, "Madonna Lily shaped." I hoped Mr. Bennett-Poë would have penned a few lines himself and then gone on to enthuse about his "darlings," but he has kept silence for such a long space that I fear he will not write. It would be a good thing if all interested would agree upon these names and definitions: (1) A Nerine-shaped flower, one like Fothergillii major; (2) an Azalea-shaped flower, one like pudica, Novelty, or Miss Woodward.—JOSEPH JACOB.

Blackbird Building in the Hole of a Tree.—In a recent issue of THE GARDEN your esteemed correspondent "Anne Amateur" refers to a blackbird building its nest in the hole of an Apple tree. Surely this is a mistake. Is not "Anne Amateur's" blackbird a starling?—F.Z.S.

[We sent this note to "Anne Amateur," who replies as follows: "I am sorry to controvert the 'distinguished ornithologist,' but verily (even though he should be Richard Kearton himself) it *is* a blackbird—not a starling—that builds in the hollow trunk of my Apple tree. I have often watched his home-comings, and his goings, for hours from my window, and I well know a blackbird from a starling, also that blackbirds do not generally build in holes (that is why I mentioned it as a curious and unusual circumstance). Moreover, last spring a starling, which evidently agreed with the aforesaid 'distinguished ornithologist' that a hollow tree trunk is the proper place for a *starling's* nest and *not* for a blackbird's, fought the blackbird for it, and, being vanquished in the fray, betook himself to a gully-head in the roof guttering, and there succeeded in choking up the pipe and drowning his family in the first thunderstorm (and cost my factotum half a day's work, on top of a ladder, to clear out the ruins!). Retribution befel the blackbird also, for the kitten, just arrived at cathood, caught and killed most of the young blackbirds, and so ends this sad but true tale.—ANNE AMATEUR."—ED.]

EARLY PEA LORD KITCHENER, A NEW AND PROMISING VARIETY.

New Early Pea Lord Kitchener.—I was so pleased with this variety last year that I certainly hope to grow it on a more extensive scale this season. With me it proved to be of robust habit, growing to a good 4 feet in height; but it should be explained that it was grown on virgin land of heavy nature that had been deeply dug, or rather bastard-trenched, in the winter. This Pea carried a succession of deep green and well-filled pods from the bottom to the top of its growth. It has two very great attributes, viz., the earliness with which it matures and its truly delicious flavour. It comes into bearing much quicker even than Pioneer, while for size and sweetness it has everything in its favour. In the accompanying illustration the pods have not been specially arranged, as they so often are in photographs, but it shows an average growth as it appears towards the end of the season. This Pea, which belongs to the same type as the much-prized Duchess of York, is introduced by Messrs. Sutton and Sons, and it is regarded as one of the best early Peas sent out by the well-known firm.—H. C.

Apple Allington Pippin.—It may be that this Apple, like some others, will not thrive on every soil, but I suggest that Mr. Copeland should give it another year's trial, and if we have a warm summer, which the past two have certainly not been, it is probable that he will be able to revise his opinion. My experience is that no Apples have been at their best for the last two years.—E. A. B., *Kent*.

Galanthus Ikariæ.—This is a very ornamental Snowdrop which comes from the island of Ikaria, off the coast of Asia Minor. It has highly ornamental foliage, this being of a glossy green and broad and recurved, while the leaves arch gracefully over. The flowers, which are of good size, are pure white, very heavily tipped with green in the case of the inner segments. I have had this charming Snowdrop from several sources, including Mr. Edward Whittall, who was the first to introduce it. My experience has not been so satisfactory as I could desire, as, after growing it for some time, it appeared to be peculiarly liable to the attacks of the Snowdrop disease, and that a severe spring injured the foliage and led to a weakening of the bulbs. I am aware that this is not the universal experience, but from correspondence with other Snowdrop lovers I fear that it is the general one in the Northern parts of the kingdom.—S. ARNOTT.

Potatoes and Lime.—There is a conflict of opinion regarding the merits or demerits of lime when applied to Potato land. I heard the other day an agricultural lecturer who is well known for his knowledge of manuring, and deservedly so, state that Potatoes should not have lime. I took the liberty of demurring to this opinion, as in the course of a somewhat long experience in gardens I have met a good many gardeners who told me they always used lime for their Potatoes. Some of them said that they could not grow good table Potatoes unless the ground was well limed. In some cases the lime was scattered in the drills; in others applied during winter and dug in. I have eaten Potatoes from land where they were poor until lime was applied, and with that they were excellent. A gardener of long experience in different parts of the country who was present when the remark was made expressed agreement with me, and the conclusion of the matter was that the expert admitted that his remark only applied to the skin of the Potato. By the way, I have seen Potatoes grown with seaweed and seashore jetsam badly marked with scab, apparently due to the salt which remained in the manure.—A SCOTSMAN.

"Always a Flower in the Garden."—In the interesting and instructive article with the above title in THE GARDEN of December 16 last, page 605, I note that the writer speaks favourably of that abominable and pernicious weed, Tussilago

fragrans. Some six years ago I was induced by similar advice to plant the thing in my garden, and for four years out of the six I have been vainly trying to eradicate it. The dingy, ugly flowers have certainly a very pleasant scent and, given a favourable season, it is winter blooming; but a very few degrees of frost reduce the whole plant, both leaves and flowers, to a repulsive black mass. But no frost will kill the roots; they will run for yards round the original place of planting, come up in a hard gravel path or work under it, and appear amid your choicest flowers in the border the other side. Its coarse leaves will kill any less rank-growing plant by sheer suffocation, and nothing short of digging up both invader and invaded and carefully picking out every scrap of the former's roots will be of the slightest use. Perhaps in other parts of England "the delicate and fragrant thing," as Miss Hope Evans calls it, may be a less rampant evil-doer. Although it grows so freely here (North Somerset), it is, as I have said, certainly not hardy, even on a sheltered bank.—D. P. B.

The Hardiness of Camellias.—The observations in recent issues on the hardiness of Camellias induces me to send the accompanying picture of a Camellia bush in full flower in the gardens at St. Leonard's Hill, Windsor. This garden is situated at the summit of a hill, and the Camellias are exposed to the cold north-east winds that sweep across the hilltop. In this garden Camellias are not grown as isolated specimens; there are dells of Camellias and hedges of Camellias, including the old alba plena (double white), Chandleri elegans (large flowers, light rose), Valteoareda (bright pink with snow white spots), Bealii (deep red) and Mathotiana (with dark double red, Pæony-like flowers). Even the fragrant, small-flowered C. Sasanqua succeeds outdoors, also the beautiful C. reticulata. It is strange that these plants are regarded as tender. The more exposed the position the better they seem to like it. The flowers appear early, and they may be injured like most other flowers that face the frosts of spring.—SPARTAN.

CAMELLIAS FLOWERING IN THE OPEN AT WINDSOR.

The Kaffir Lily (Schizostylis coccinea).—I have been very much interested in reading in recent issues of THE GARDEN the accounts of those who have grown this Lily. I have grown this beautiful little Lily for about ten years, but it has never done so well with me as this year. When first I got it from South Africa I planted it in a fairly sunny spot in the vegetable garden, but somehow I thought I was not kind enough to it, as it never flowered well, and so I moved some of the bulbs to a warmer place about a year and a half ago, and gave them a dry and sunny position against my house wall, under a window. This year the plants have fully recovered from their removal, and have made a gorgeous display of flowers, which I have been picking and putting in water for at least a month. I have found that they last in water three to four weeks in a warm room. All the buds, almost before they show any colour, will open in the room by degrees, and several persons who have seen them and not known the plant have asked me where I got those pretty little Gladiolus-like flowers from and what was the name of them. The roots are still sending up flowering stems. I have the last few nights, when it looked like a sharp frost, put a bit of matting over them for protection, and now I think with a little more care I shall get a lot more flowers from them, as I am going to put some frame-lights over them. I certainly have found a south wall and a dry and sunny aspect to have suited them much better than the open garden, as my plants have made a display of flower this year; and what makes this Lily such a recommendation is that it keeps on flowering for weeks in water in the house when picked. I have mixed it with late-flowering sprays of delicate little Michaelmas Daisies, and the two colours have blended well together. I shall give all my plants under the window a top-dressing of decayed leaf-mould when they have finished their flowering, as their situation looks so dry and poor.—F. D. HALL, *Maxby Rectory, near Louth, Lincolnshire.*

NOTES FROM THE RIVIERA

BY EDWARD H. WOODALL.

Rose General Schablikine.—I was glad the other day to see that Mr. E. Beckett was able to praise the behaviour of the Tea Rose General Schablikine in an English garden. It does not do well on light soils on the Riviera, but is quite invaluable on clayey or any heavy soil, so no doubt the strong clay soil at Aldenham suits it thoroughly. Dean Hole used to say that if ever he was condemned to grow only one Rose, he should beg for a strong plant of Gloire de Dijon as being the most constant and reliable of Roses. For my part I should ask for a plant of General Schablikine *on its own roots*, as it is one of the few Roses that are really best on their own roots. It is easily struck by cuttings of half-ripe wood, and even will occasionally strike when a thick piece of old wood is thrust in the ground in autumn, while its winter-blooming powers are unrivalled. But there is another Rose of unusual excellence for autumn and winter blooming that is not so well known. It is a Bourbon, not a Tea, and is therefore more of a pillar Rose. Comtesse de Turenne or Mme. Wagram (for it is known by both names) is a Rose of great value on this coast for winter bloom. No Rose can give finer or more massive, globular-shaped blooms in November and December. Its silvery pink colouring is very attractive, and its glossy, bright green foliage is also noticeable even when the blooms are cut. It has one marked peculiarity, which is a stumbling-block to gardeners who prune all Roses alike and very ruthlessly in September. It must *not* be pruned then, but allowed to make its second growth and flowering before any knife is put into it. It is so checked by being pruned in autumn that it will not flower till January or February, and its large and soft-petalled blooms suffer.

Duchesse de Nemours is, as its name indicates, an old-fashioned Rose of Bourbon strain which deserves rescue from oblivion, for there is no better autumnal Rose for covering an arch. Its large blooms are a shade deeper in colour than those of Caroline Testout, and in this climate it is the better Rose of the two. Neither heavy rain nor a slight frost seems to have any bad effect on its firm petals. It has the one disadvantage of being scentless, an unusual thing for a Rose of the Bourbon type. It is a Rose that strikes very easily from cuttings, and in consequence should still find a place in the gardens of Rose connoisseurs if a sudden fit of cold winter weather should occur. But let it alone and only prune out the poor and exhausted wood in February, and you will enjoy a sequence of fine blooms throughout the season. There is no other Rose that I have

come across which is so marked in its habits. On a wall in England I should think its autumn blooms might be very beautiful where it was a little sheltered from dews and damp. I find that cut blooms last particularly well in the house. Its summer flowers are never very satisfactory, being more lumpy and irregular in shape and petal, so that it is as an autumnal Rose it should be recommended.

THE INGENUITY AND CONSERVATISM OF BIRDS

BY THE REV. DAVID R. WILLIAMSON.

THAT the beautiful feathered singers of the woodlands and waysides, whose music in spring and early summer is so exquisite, possess the special attributes recorded in the title of this unambitious contribution to natural history, the following authentic narratives, the result of observation and long experience, will adequately show:

For many years in my finely sheltered Manse garden, which is now, much more than it used to be, "open unto the fields and to the sky" for the freer admission of sunlight and fresh air, I was in the habit of planting annually around a venerable Apple tree, that had almost ceased bearing, a circle of white, lavender and orange scarlet Sweet Peas, whose privilege it was to grow upwards, like forms of floral aspiration, through the branches, and whose gracious aspect the great poet Keats, an intense worshipper of Nature and fervent lover of flowers, has so memorably described. On this aged tree, not far from the ground, a pair of amorous thrushes began to build their nest. As I did not wish my plants and flowers to be contaminated at a later period by involuntary contributions from the young and restless (bird) generation, I took the precaution of placing a number of pebbles in the rapidly growing nest, thinking serenely that the "wise thrushes," who, in the words of Robert Browning, slightly modified,

> "Sing their song twice over,
> Lest they never should re-capture
> The first, fine, careless rapture,"

righteously indignant at this lamentable human interference, would go and build elsewhere. But my hopes were not fulfilled, for the birds, intent on carrying out their "provisional" aspirations as soon as possible ("procrastination" not being a word in their vocabulary), calmly proceeded with their building as if the pebbles in question did not exist!

Not desiring to be utterly beaten by a pair of thrushes, I placed—this time with more amusement than indignation—a stone of very considerable dimensions and sensitivity to Nature's momentous "law of gravitation" on the result of their labours, deluding myself with the too confident anticipation that the birds were now completely foiled. Next morning, to my astonishment, I found that the assiduous pair—doubtless philosophically supposing that it was better to bear with the evils that confronted them than to fly to others that they knew not of—had built an entirely new habitation on the top of the stone!

My next procedure was to tie a number of strong black threads from branch to branch above their latest creation, to prevent them from getting in. In an almost inconceivably short period they had built another house for their future descendants in the centre of the ingenious network I had constructed for their utter discomfiture! Thereafter I left them not "severely," but admiringly, alone.

Another admirable characteristic of birds is their intense conservatism. For at least ten years consecutively a pair of beautiful chaffinches built their exquisitely constructed nest in the same picturesque position in the branches of a Green Gage at the foot of the Manse garden. This special nest was constructed so closely akin in

AN EARLY FLOWERING VARIETY OF GALANTHUS ELWESII.

colour to its immediate environment that it was only with great difficulty it could be localised. A greenfinch nest was constructed for many successive seasons on a neighbouring Apple tree. A pair of blackbirds also built for many years and reared their tender progeny in a Lupinus of great strength and floral productiveness in the centre of the garden.

From personal observation it may safely be inferred that birds possess intelligence and artistic capability in a remarkable degree.

AUTUMN-FLOWERING SNOWDROPS

MR. CHAPMAN'S interesting note in THE GARDEN for December 16, 1916, page 606, stirs me up to pen another in defence of these favourite flowers of mine. He charges them with getting into bad habits, rising later year by year until they behave like The Snark, and "frequently breakfast at afternoon tea, and dine on the following day." This may be true of some forms, for I believe most of these autumnal flowers are but forms of Galanthus nivalis; but in my experience of many years it does not apply to the two known as G. Olgæ and G. Rachelæ, which, wherever they can be kept alive and healthy, are sure to flower in the end of October. They both send up flowers before the leaves are produced. I believe and hope that the habit is a fixed one with both of them. G. cilicicus must surely also be reckoned as a form of nivalis, but not as an autumnal flowerer. It should, however, show its buds before the shortest day of the year, and thus be in advance of the ordinary form in ordinary situations. G. byzantinus and G. Elwesii are apt to blossom very early in the first season after planting, and then to accommodate themselves gradually to the usual Snowdrop season. But I find that certain individuals of G. byzantinus retain the early flowering habit, and I have several already in flower (December 20) in spite of the frost and snow of the last week. One marked plant has never failed to flower early in December for the last ten years. I have a clump of the form that worked its way along the months year by year till it now flowers in the end of March, and in some seasons lasts into April, instead of appearing in October. It came from the Rev. H. Ewbank's wonderful garden at Ryde, and was sent by him to Canon Ellacombe, who gave it to me, telling me of its progressive nature. I have always hoped it might go further still, and by flowering a fortnight later each year come round to October again in time, but it is now apparently contented with the lamb-like period of March. The form from Corfu, G. corcyrensis, unfortunately died out here, and I have never been able to get G. Elsæ. I believe these two would prove as consistently autumnal as G. Olgæ wherever they could be made happy enough to thrive.

E. A. BOWLES.

FLAVOUR IN COOKING APPLES

THERE are some men to whom all kinds of tobacco are alike, good or bad; there are others who would find no difference between a glass of port served at a refreshment bar and one from a bottle of a choice vintage; and I venture to think there are a still larger number to whom a cooked Apple is the same, whatever may be the variety.

This arises from various causes; first, from bad cooking, and I think the more pretentious the household the worse, as a rule, Apples are cooked. The swagger cook is rarely content with the natural flavour of the Apple, but must endeavour to improve upon it by sticking Cloves or Lemon into the pie, and this I call bad cooking. A second cause is that few people take the trouble to enquire what Apples they are consuming. The

gardener sends in the fruit, the cook uses it, and if those who eat it do notice that it is better or worse than usual, they put it down to the cooking. Lastly, there are the people whose palates will not allow them to distinguish between good and second-rate, though in the majority of cases a little education would enable them to do so.

These ideas came into my mind because the other day I discovered a new variety to add to my list of good cookers and because I have often wondered that your correspondents rarely (so far as I have seen) touch upon the question of flavour. The Apple I refer to is Mrs. Barron, by no means a new variety, but one I had never cooked before, and I found it excellent.

Of course, tastes differ, and what I praise some other critic may condemn. It would be quite impossible to pick out any one variety as the best cooker. One is best at one season and one at another, but one of the most delicious I ever tasted was Thomas Rivers, fruit sent to me by a friend in the South, for, unhappily, we cannot fruit the variety here. I think it should be pruned as an open bush, and needs plenty of sunshine. Again, those who have not cooked Allington Pippin have a treat in store. We hear people complain that this Apple when well grown is too large for dessert. Agreed; but cook it and you will want more. Cox's Orange Pippin is splendid, but here we are getting luxurious, and the fruit cannot be spared from the dessert table. On the other hand, Blenheim Orange, which is often extolled, I find somewhat dry. [It is all a matter of taste, but we know of no variety to equal Blenheim Orange as a cooker.—ED.]

Of the early Apples, Lord Suffield is perhaps the best. Midseason Apples of fine flavour are numerous. Cellini has a flavour quite apart, not to be forgotten when once tasted. Golden Noble is fine, and cooks with clear amber-coloured juice. Bismarck is excellent if not kept too long, and I think the same remark applies to Prince Albert, which is a poor thing late in the season. Other midseason Apples of good quality are The Queen and Peasgood's Nonsuch, and I might add Chelmsford Wonder.

Among the late Apples, Beauty of Kent is prominent. For those who like a sharp flavour, Dumelow's Seedling (called Wellington in the South) is unrivalled, and no Apple can compare with it for making mincemeat or relishes needing Apples in their composition. Annie Elizabeth is first class for culinary purposes, and excellent for dessert in the spring months when most of the dessert varieties have lost their freshness; while for the last of the season nothing can come up to Bramley's Seedling. Other varieties may keep as long, but they do not retain their flavour like this Apple. Last August I had pies made of this variety, which were excellent without the addition of any kind of flavouring.

The few names I have given do not by any means exhaust the list of *good* cooking Apples, but are those of the kinds for which I have a particular liking. I do not say they are the best to grow, for, speaking for my own locality, I have already said that Thomas Rivers is no good; while Lord Suffield is a martyr to fungoid disease, Chelmsford Wonder and Cellini suffer from canker in many soils, and The Queen and Dumelow's Seedling are shy bearers; the latter also sometimes cankers. For the above reasons market growers prefer to plant Apples which, although of not quite the same high quality, are more dependable in the matter of cropping or more robust in their habit of growth, and, after all, most of the market varieties are quite good except one. I must draw the line at Lord Derby. I have hitherto failed to find it even medium.

Lowdham. A. H. PEARSON.

TULIP PLANTINGS

TO follow the type of formal Tulip planting shown in the enchanting pictures of the gardens of Mathern Palace some years ago by Mr. H. Avray Tipping had always been one of my dear ambitions. These photographs, if I am not mistaken, were published in *Country Life* in November, 1910. The two entitled "A Grass Alley" and "In the Old Quadrangle" are lessons in beauty not easy to forget. When the equally charming arrangements of these spring flowers, placed and described by the same hand, appeared in THE GARDEN of June 17 last, I felt more and more my own inadequacy with these wondrous Orientals. One is never discouraged when flowers are to be dealt with, however, and fortunately, now that English and American amateurs have the best varieties of Tulips with which to work, no excuses for poor or ugly plantings are really in place.

I submit a photograph of one of two balanced plantings—the balance consisting in the fact that the same arrangement occurs in opposite corners of this garden—of late Tulips below a pink Flowering Dogwood (Cornus florida var. rubra). The Tulips specified for these Box-bordered beds were to be of either of the two groups following, and should have been planted in the order in which those of each group are mentioned: Clara Butt, Electra and Dream; or Sir Trevor Lawrence, Mystery, Sir Harry and John Ruskin. The second group was first in my preference because of the greater distinction of the Tulips therein. But in such matters, and when the garden is another's, Tulip plantings, like many of our hopes, are on the knees of the gods. I hear that the subjects now shown are not in every case those specified. I venture to think that the colour of the groups as planned would have been fairly good below the tree in its beauty, and suggest these for trial where one is so fortunate as to own a fine specimen of the Cornus. (Mrs.) FRANCIS KING.

Orchard House, Alma, Michigan.

LATE TULIPS BENEATH A PINK FLOWERING DOGWOOD.

NEW YEAR'S DAY AT BASTIA, CORSICA

By W. Herbert Cox.

SITTING on the Cyrnos Terrace smoking an after-breakfast cigarette, I thought of friends at home enwrapped in sulphur-scented fogs, while wondering if I ought to fetch a hat as a protection from the sun. Gloom, grey skies, sleet, hail, cold, fog, dirty snow perhaps at home; here hot sunshine. As I wandered along the Corsican byways the birds were singing, swallows flitting, lizards were sunning themselves on hot walls, Red Admiral butterflies flying about, and bees extracting honey from numberless flowers.

The gardens at home have gone to rest, waiting the return of spring; but the gardens of Corsica were as bright and gay on New Year's Day as on any other day—brighter, perhaps, on account of the Aloes. Flaming away in every garden are they, and on rocks, hills and in pots; but in the grounds of the Villa Lesque there is a great hedge of them, perhaps two yards thick and hundreds of yards long, full of blazing scarlet blossoms, like glowing torches, threatening the power of the sun. I do not know the correct name of this Aloe; maybe it is arborescens, but if so it seems very different from the arborescens of British greenhouses. Maybe it is socotrana; anyhow, the colour is wonderful.

At the Villa Oranga, in the high suburbs of Cardo, are vast Camellia trees covered with neat blossoms of red, white, cream, streaked and speckled. "Take away as many flowers as you like," says M. Louis, "but cut them; do not break them off. Camellias should always be cut with a sharp knife." We eat some Mandarins and a few Strawberries, gather huge Violets with long stems, and bright Verbenas.

From the walls of the kitchen garden of the Villa Southwell a wealth of orange trumpets of Cape Honeysuckle (Tecoma capensis) hang over, dropping flowers on the carpet of Sweet Alyssum covering the rocks below, and yellow Nasturtiums throw themselves over another wall. Under Fort Straforelle is a villa, in the garden of which another favourite of mine ramps gaily over fences, besides the Bamboos. It is often disparaged, but to see it growing thus in the wildest luxuriance of creamy yellow sprays so richly scented certainly disposes one in its favour. There, too, the Marvel of Peru still has plenty of blossoms; so have Tobacco Plants, albeit they are dingy brown; also Cerastium shrubs with red panicles. At the Villa Angèle the Heliotrope has grown so big and is so full of flower that it has to be cut down before the dining-room window will open.

Instead of the prim Box, the charming Algerian Iris (I. stylosa) is a great favourite as an edging. The narrow foliage is almost hidden by the soft mauve flowers when the weather is windless. At Turret House this is popular, the beds containing flaring Cannas and tall Cotton Plants (Gossypium herbaceum), with fluff falling from the bladder-like pods. The pergola leading up to the house still has plenty of golden Jasmine flowers, not those of Jasminum nudiflorum, but of revolutum. The gardens of the Corsicans are seldom rich, for the people appear to have no love for flowers. In the large commercial town of Bastia there is not one single florist's shop, so that it is only in the market among the turkeys, fish and vegetables that it is possible to purchase any, and there they are but little cottage posies; hence no remarkable plants can be chronicled here. The best-planted gardens are those of the fine mausoleums, which are on nearly every hillside. In these gardens the blue Plumbago capensis still has a few sprays, and Bougainvillea glabra shows some mauve bracts. Roses, too, are numerous, Roses of all shades, Teas, Bengals, Chinas and Banksias, hanging their lovely heads and saluting New Year's Day. Carnations are mainly grown in pots, red being the favourite colour; still, there are occasionally some pink or white ones. It seems strange that white Pinks should be in blossom, but they are; so are Flag Irises. In many corners unexpected flowers are tucked away and seem happy though neglected, such as Candy-tuft (Iberis sempervirens), Phyllocactus with scarlet blooms, Veronicas covered with blue or purple tails, various Lavenders, Chrysanthemums and Megaseas, while Marigolds set odd corners of the beds afire. A large shrub of African Hemp (Sparmannia africana), with elegant single flowers and golden anthers, looks far better than the somewhat coarse, double kind. The Ivy-leaved Pelargoniums hang their pink petals over the walls with golden Mesembryanthemums, while on top wait other Pelargoniums, white, pink and red. They are not great favourites here, but they grow to such a size that they are convenient on which to hang out the washing! Into bushes with woody trunks grow Marguerites white and yellow. The Japanese Loquat (Eriobotrya japonica) has plenty of fragrant blossom (see December 23, 1916 page 615); so, too, have the Lemons; while the Almonds arrived in good time to strew the path of jolly old Father Christmas with soft pink petals.

THE AFRICAN HEMP (SPARMANNIA AFRICANA), WITH ELEGANT SINGLE WHITE FLOWERS AND GOLDEN ANTHERS.

From the appearance of the hillsides around Bastia it would seem that some years ago the Corsicans had nothing to do, as usual, so, contrary to their custom, they did something—they planted Mimosa trees wherever they could find room. The Silver Wattle (Acacia dealbata) is just coming into perfection. The fluffy golden balls hang down from the trees and the perfume is delicious. A. retinoides or floribunda, called the Monthly Mimosa because it is in blossom every month of the year, has, as always, some yellow sprays, and my favourite longifolia, with its brightly shining foliage, is also coming out.

Not to be outdone by their exotic relatives, the wild flowers are making a good show. The sub-shrubby Helleborus corsicus, locally called the Corsican Rose, carries heavy bouquets, and creamy Bunch Narcissi are out by the streams. The "maquis" shrubs in blossom include Arbutus Unedo, Cistus monspeliensis, Rosemary, blue Globularia alypum, Lavandula Stœchas, Rue and Laurustinus.

Occasionally in a clearing you may come upon dry stems of Solanum sodomæum, but they look splendid, being covered with golden Dead Sea Apples. This is a new form, developed on the Mediterranean from the Cape original. By the waysides all kinds of blossom appear, Borage (beloved by the bees), Daisies (our own and a coarse kind), Cornflowers, Chicory, Cyclamen neapolitanum, Arum Arisarum, shiny Celandines, Toadflax, the deliciously scented Petasites fragrans, Campanulas, Scabious, and the blue Sea Daisy by the lagoon.

This account of common flowers, truly noticed, hardly suggests New Year's Day to stay-at-home Northerners.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Pruning.—Continue the pruning of established trees on walls and in the open. In the case of orchard trees that have been neglected and the branches of which are now too thick, cut clean away the weak ones in the centre, giving more light and air to those retained. In the case of smaller standard-trained trees, the aim should be to furnish them with main branches radiating from the centre in a complete circle. From these main branches smaller branchlets should aid in furnishing the tree entirely with fruiting wood right into the centre. When once a tree is shaped, it does not require more pruning than the cutting back of the

E. MOLYNEUX.

current season's shoots to within an eye of the base, the aim being, even in standard trees, to furnish fruiting spurs freely. Plum trees in the open, where subject to injury by birds destroying the buds, should be thickly sprayed with lime; this checks absolutely such ravages if the spray is put on properly. In the case of newly planted trees, defer the pruning until February.

The Herbaceous Border.

Where it is not intended to replant the border, the whole of last season's flower-stems should be removed, cutting them off close to the soil. Clear away all weeds and give the border a 2-inch surface-dressing of decayed leaves, wood-ashes, old potting soil and burnt vegetable refuse, completely covering the plants of herbaceous Phloxes, Heleniums and such-like subjects which make fleshy surface roots, from which vigorous off-shoots are pushed up the following spring. Such a covering stimulates growth very considerably. In the case of Delphiniums, which often suffer from slugs eating the succulent growths under the surface in early spring, it is a good plan to remove the soil 2 inches from the crown, scatter over it soot or lime as a preventive, and replace the soil and the top-dressing.

Fruit Under Glass.

Pruning Vines.—This should be completed without delay, cutting back last season's shoots to within one or two eyes of the base. Where the growth is satisfactory, one eye is sufficient to retain. Sometimes two shoots are required from one spur to fill a gap on the other side of the rod; then two eyes will be useful. If they are not required, the top shoot is easily rubbed off in spring. Where the spurs are so thick on the rods that retaining one shoot from each spur quite prevents a due share of light and air reaching the leaves, cut away several to induce a more sturdy leaf growth. This is important in the production of good Grapes. One fully developed, mature leaf is worth more than half a dozen weak, attenuated ones. In the case of one, two, or three year planted Vines, do not allow the leader to extend more than 2 feet annually. It is far better to build up a strong base for future energy by restricting the length of leader than to allow it to extend 6 feet in one year with a view to filling the vinery quickly.

Peach Trees that have made too much growth in the past and not enough fruit should be replanted without delay; and although it is late for such work, it is better done now than not at all. Make certain that no part of the border in which the trees are growing is dry or approaching that stage. More harm is done to the Peach crop by dryness at the roots than the reverse, that is if the drainage is correct, as it usually is in Peach-houses.

The Kitchen Garden.

Where large exhibition Onions and Leeks are required, seed of Onion Ailsa Craig and Leek Prizetaker should be sown in boxes of moist soil and placed in a temperature of 50° by night.

Broad Beans of the Windsor and Longpod types may now be sown in 10-inch pots or boxes where they are to fruit, leaving 2 inches of space at the top for a future top-dressing of manure to stimulate growth when the pods are swelling.

Carrots.—A sowing of Early Nantes or Short Horn Carrots should be made in a frame or pit over a mild bottom-heat, keeping the lights close until the plants show through the soil, unless they need opening to allow steam to escape from the manure.

Peas of the Early Giant and Edwin Beckett type should be sown in 10-inch pots in a cool house. From such sowings Peas can be picked in May. A sturdy growth from the start is indispensable to success.

Potatoes like Duke of York, Ringleader and May Queen for the earliest supplies should be treated in a similar manner to the Peas.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

AFTER the New Year the work in this department must be proceeded with apace, taking advantage of frosty weather to wheel manure on to vacant ground. Now is also the time to plan where the various crops are to grow, so that the ground for any certain subject may receive the necessary attention for its particular wants. If not already done, the Onion ground should be well trenched and thrown up in rough ridges to be disintegrated by the weather. This is a most valuable crop, and any extra labour expended on the preparation of the ground will be amply repaid later in the season. Unlike the majority of garden crops, the Onion may be grown successfully from year to year on the same ground.

A good quantity of Jerusalem Artichokes should be lifted and stored for convenience during frosty weather. Keep Brussels Sprouts clear of all decayed leaves and inspect the young Cabbages that are for spring use, making firm any that may be loosened by the storms.

Parsley may be plentiful still in the open in some districts, but most establishments of any size have a good supply in frames. The plants should be attended to regularly, picking off any leaves that show signs of damping and allowing plenty of air to circulate freely when the weather is open.

The Fruit Garden.

Replanting.—Where any replanting is taking place it is well to rejuvenate the soil with a fresh mixture of roughly chopped loam with a sprinkling of lime rubble and wood-ashes. The additional attention accorded at the time of planting will be repaid in after years with good fruitful and healthy trees. Cut any damaged roots with a sharp knife, at the same time shortening any that are extra long. Place the tree in position, spreading out the fibrous roots; plant firmly, and if a standard tree see that it is firmly staked, finishing with a top-dressing of loose litter or other protective material.

Plants Under Glass.

Late Chrysanthemums still make a nice display, while the earlier varieties have been cut over so that they may throw up good strong cuttings. I find my best results are obtained when the cuttings are struck in a nice brisk temperature, the single-stemmed varieties in 2½-inch pots and the bush sorts placed in ordinary cutting-boxes. Dibbled into a fine mixture of leaf-mould and sharp sand they strike quickly, and after repotting are gradually removed to cooler quarters.

Calceolaria Clibranii is now putting out strong growths, which should at once receive

JAMES McGRAN.

careful staking, as the shoots are most brittle and with the least provocation break off at the base. Plants which have been moved into 8-inch pots should be staked with 4-feet tapering canes, as it is not unusual to have this elegant plant with shoots that height. It is most happy in a cool, well-ventilated house, where careful watering is one of the main factors in its successful cultivation.

Begonia Gloire de Lorraine.—Plants that have been used for house decoration during the Christmas period may now be cut over and encouraged to break away for an early supply of cuttings. Keep the strongest plants for this purpose, and do not cut over too severely. Retain a fair amount of foliage and place the plants on a shelf in a house with a temperature of from 55° to 60°. The plants must be kept fairly dry till the young growths appear. Fine plants may also be had by propagation of the leaves, but the majority of people like best to work with the bottom shoots.

The Shrubbery.

Most varieties of shrubs have been making rapid growth this season, with the result that more attention must be given them. Avoid overcrowding, and do not be afraid to thin out the rank growers, especially those that flower on the current season's wood. Varieties which flower on the previous season's growth should be handled with discretion. In thinning thus the shrubs are kept trim, and the growths that are left have a much better chance to ripen.

JAMES McGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

POTATOES IMMUNE FROM WART DISEASE

THE varieties of Potatoes described in the following list have all been tested experimentally by the Board of Agriculture and Fisheries, and have been proved resistant to wart disease of Potatoes. The Board recommend all occupiers of land infected with this disease to plant one or more of these varieties, but they take this opportunity of reminding all such persons that it is illegal to plant any Potatoes on land which has been declared by a notice served by a duly authorised inspector to be infected premises, or on land which has been declared to be part of an infected area by an Order of the Board, except Potatoes authorised to be so planted by a licence granted by an inspector. The penalty for illegal planting is a fine of £10.

All persons who wish to obtain a licence to plant should make application on a form, which will be sent on demand, addressed to the Horticulture Branch, Board of Agriculture and Fisheries, Whitehall Place, London, S.W. Letters so addressed need not be stamped.

LIST OF VARIETIES RECOMMENDED FOR 1917.

EARLY VARIETIES.

1. *A 1* (Sutton).—An early with an upright haulm and rather small, crinkled leaves. Flowers are seldom, if ever, formed. The tubers are round, of medium size, with a white skin and yellow flesh. Quality good. It crops moderately well and is suited for garden cultivation.

2. *Resistant Snowdrop* (Dobbie).—An early with a spreading haulm, not very vigorous. The tubers are kidney, with white skin and white flesh. It crops well and its quality is fairly good. The stocks of this variety are very small.

3. *Edzell Blue.*—An early with a strong, spreading haulm. The tubers are round, skin coloured, and flesh a pure white. It crops well and the quality is excellent. Highly recommended for gardens and allotments, but its colour will probably prevent it becoming a popular market variety.

SECOND-EARLY VARIETIES.

4. *Conquest* (Findlay).—This variety has a strong, spreading haulm. The tubers are round, with a white skin and white flesh. Flowers white. The variety crops well.

5. *King George* (Butler).—A variety with a fairly strong, spreading haulm. The flowers are white. The tubers are elongated, with shallow eyes. In many respects the variety resembles British Queen. It is a heavy cropping variety, but the quality is not very good.

6. *Great Scot* (McAlister).—One of the best of the second-early varieties. It is later than King George, and might even be regarded as an early maincrop. The haulm is tall, upright and vigorous. The foliage is dark green and glossy. The flower is white. The tubers are round, with moderately deep eyes. The skin and flesh are white. It is a very heavy cropping variety, and the quality is good.

7. *Sir Douglas Haig* (Sands).—Indistinguishable from Great Scot.

8. *Southampton Wonder* (Toogood).—Indistinguishable from Great Scot.

9. *The Duchess* (Dobbie).—The haulm is moderately vigorous and spreading. The tubers are round, skin white; flesh white, and eyes rather deep. It crops well.

10. *The Ally* (syn. The Allies).—Haulm vigorous and spreading. Flower white. The tubers are usually oval, but the shape varies. The skin and flesh are white; eyes shallow. It is a very heavy cropping variety, but the quality is only fair.

LATE OR MAINCROP VARIETIES.

ABUNDANCE TYPE. Nos. 12 to 18 resemble Abundance in most respects.

11. *Abundance* (Sutton).—An early maincrop with strong, upright haulm and dark green, glossy foliage. The flowers are white. The tubers are round to oval and flat. The skin and flesh are white and the eyes shallow. The cooking quality is good. The variety crops well, but it is rather liable to the common Potato disease (P. infestans).

12. *Culdees Castle* (G. R. Sharp).—An early maincrop which resembles Abundance.

13. *King Albert* (Sands).—An early maincrop which resembles Abundance.

14. *The Provost* (Dobbie).—Of the Abundance type.

15. *Crofter* (Dobbie).—Of the Abundance type.

16. *Jeanie Deans* (Findlay).—Of the Abundance type.

17. *Favourite* or *Improved Favourite* (Dobbie).—A well-known variety of the Abundance type.

18. *Twentieth Century.*—Resembles Abundance.

THE ADMIRAL TYPE. Nos. 19 and 20.

19. *The Admiral* (Dobbie).—An early maincrop with a tall, strong, upright haulm which becomes more spreading towards the end of the season. The flowers are white. The tubers are flattish round, with shallow eyes. The skin and flesh are white. The variety yields a good crop of moderate-sized tubers.

20. *Burnhouse Beauty.*—This variety does not appear to be so vigorous as The Admiral, and the foliage is inclined to curl. The flowers are lavender and white. The tubers are round or pebble-shaped. The skin and flesh are white, and the eyes shallow.

21. *The Laird* (Davie).—A maincrop with a vigorous haulm and purple flower. The tubers are round; larger than Admiral. The variety crops well on certain soils in many Midland districts.

LANGWORTHY TYPE. Nos. 22 to 24.

22. *Langworthy* (Niven).—A late maincrop with tall, vigorous, upright haulm. The leaves are slightly crinkled. The flowers are mauve, tipped white. The tubers are kidney-shaped, often tapering at the "heel." The skin and flesh are white and the eyes shallow. It crops well on some soils, but requires a long season of growth and good cultivation. If possible the "seed" should be sprouted. The quality is excellent.

23. *What's Wanted* (Niven).—Resembles Langworthy.

24. *Golden Wonder* (Brown).—The haulm, foliage and flowers are practically identical with those of Langworthy. The tubers are kidney-shaped, often tapering at the "heel." The skin has a characteristic yellowish russety brown tinge. The flesh is white and the eyes shallow. The quality is excellent. The variety crops well on some of the soils of Lancashire, and it is one of the best late-keeping varieties. It requires a long season of growth, and if possible the "seed" should be sprouted. Not suited for heavy soils.

WHITE ROUND OR OVAL SECTION.

25. *Rob Roy* (McAlister).—An early maincrop with a tall, vigorous haulm inclined to spread. The tubers are flattish oval, with very shallow eyes. In size they are medium. The variety crops moderately well.

26. *The Lochar* (Farish).—Haulm of medium height and vigour, upright, with fine branches. The foliage has a characteristic delicate shade of green. The tubers are round, with eyes of medium depth. The skin is white, with a faint tinge of pink, especially around the eyes. The flesh is white. This variety yields a heavy crop of medium-sized tubers. Appears fairly resistant to common Potato disease (P. infestans).

27. *Heather Bountiful.*—Resembles Lochar.

28. *Leinster Wonder* (Sands).—A very late maincrop with a tall, upright, vigorous haulm and dark green foliage. The flowers are white, borne on long stalks. The tubers are round, with a white skin sometimes showing a faint trace of pink. The eyes are shallow. The flesh is white, tinged lemon. The variety crops well, and appears to be fairly resistant to common Potato disease (P. infestans).

29. *The Templar* (Wilson).—A late variety with a very vigorous, tall, upright haulm and dark green foliage. The flowers are white and very numerous. The tubers are flattened oval, with eyes of medium depth. The skin and the flesh are white. The variety yields a heavy crop of medium-sized tubers of very good quality. It appears to be fairly resistant to ordinary Potato disease (P. infestans).

COLOURED ROUND OR OVAL SECTION.

30. *Kerr's Pink.*—A late variety with a very strong, tall, upright haulm. The flowers are white and usually numerous. The tubers are round, with a light pink skin. The colour is so slight that it will not detract from its market value. The eyes are usually of medium depth, but on some tubers they are deeper. The flesh is white and the quality excellent. The variety yields a very heavy crop of good-sized tubers. It also appears to be fairly resistant to ordinary Potato disease (P. infestans).

31. *The Rector* (Wilson).—Tall, upright, strong haulm, with darkish green foliage. Flowers rose purple, tipped white. The tubers are round, with rather deep eyes. The skin is red and the flesh white. It yields a heavy crop of medium-sized tubers, which are of excellent quality. The variety appears to be highly resistant to ordinary Potato disease (P. infestans). Its colour will probably detract from its value as a market Potato, but it can be thoroughly recommended to growers who require a good-keeping Potato of first-class quality.

32. *Irish Queen* (Sands).—A maincrop with a tall, vigorous, upright haulm and large, medium green leaves. The flowers are purple. The tubers are round, with a pink skin and very deep eyes. The crop is fairly heavy, and the variety will keep late.

33. *Shamrock* (Sands).—A very late variety with moderately vigorous, tall haulm, which becomes spreading at the end of the season. The foliage is dark green. The flowers are white and usually numerous. The tubers are round, rather rough in shape, with a reddish pink skin. The eyes are numerous and deep, and the flesh white.

34. *White City* (Sutton).—A variety with tall, vigorous, upright haulm, usually with three or four strong branches. The foliage is darkish green. The flowers are lilac, tipped a lighter shade. The tubers are long, flat kidney-shaped and tapering, with very shallow eyes and a russet skin. The flesh is white and the quality good. The variety crops well. Unfortunately, many of the stocks of this variety are very mixed, generally with a smooth-skinned variety very susceptible to wart disease.

35. *St. Malo Kidney.*—The haulm is tall, upright and strong, and the foliage dark green. The tubers are kidney-shaped and large, with shallow eyes. The skin and flesh are white. The variety crops well, but it is advisable to sprout the "seed" before planting.

36. *Dominion* (Poad).—A late variety with a tall, vigorous, somewhat spreading haulm, with dark green foliage. The flowers are white. The tubers are flattened oval, often elongated, in many respects resembling the tubers of Up-to-Date. The skin and flesh are white and the eyes shallow. The variety crops well.

There are several other immune varieties for which approval may be obtained if desired, such as:

Second-Early Varieties.

Aberlady Early, Mr. Bresse, Border Queen, Snowball, Entente Cordiale (Findlay).

Late Varieties.

Supreme (Sutton), Flourball (Sutton), Adirondack.

Occupiers of wart disease infected premises are reminded that it is illegal to plant any Potatoes on their premises, whether of the foregoing varieties or not, except with the licence of the Board of Agriculture and Fisheries.

The following varieties are highly susceptible to wart disease of Potatoes, and cannot be planted on infected premises: Early Puritan, Epicure, Midlothian Early, British Queen, Duke of York, Sharpe's Express, Sharpe's Victor, Sir John Llewelyn, Evergood, Cora, Cigarette, King Edward VII., Up-to-Date, Dalhousie Castle, Duchess of Cornwall, Arran Chief, The Factor and Prolific.

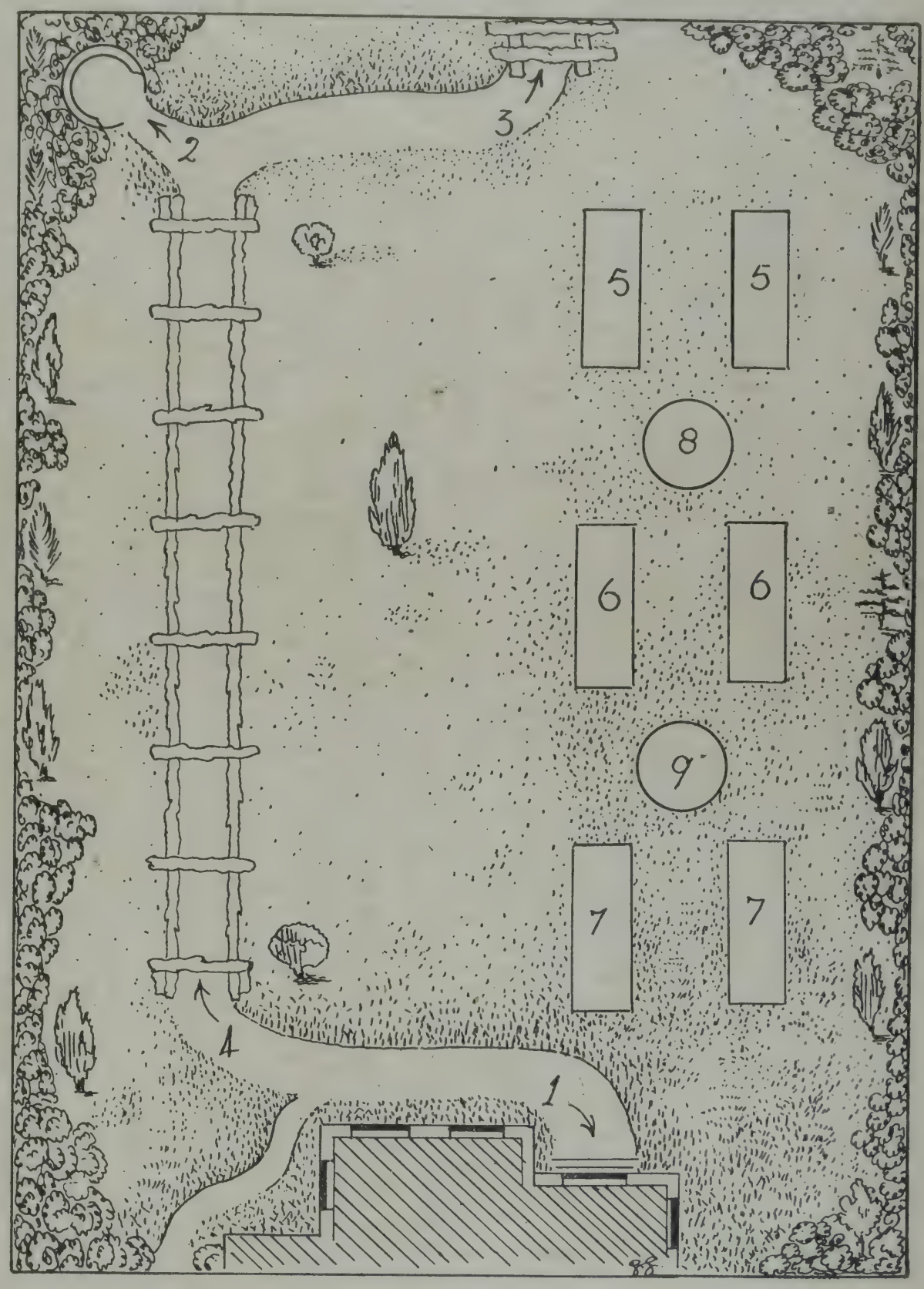
THE WINTER SWEET

(CHIMONANTHUS FRAGRANS.)

SHRUBS which blossom in January have much to commend them, for they serve to impart interest to the garden when the majority of things are in their most uninteresting state. Although some of these flowers are less showy than those which appear a few months later, many of them are very fragrant, and it is possible to detect their presence from a distance of several yards. Chimonanthus fragrans is a Japanese shrub of no particular interest while in leaf, but well worth attention in January when covered with flowers. Although often planted against a wall, it is perfectly hardy in the open ground, where it forms a bush 6 feet to 8 feet high. The flowers are borne freely from almost all parts of the younger wood. They are pale yellow outside and brown inside, and deliciously fragrant. The variety grandiflora is preferable to the type. It is distinguished by means of its larger flowers, which are of a deep golden colour. The type is increased from seeds, and the variety by grafting on to the type, and by layers. It is, however, an extremely difficult plant to get to form roots, and cases of its propagation by means of cuttings are extremely rare. A few sprays of either plant arranged with other cut flowers are sufficient to scent a large room.

THE SMALL ROSE GARDEN

I FIND that many owners of small gardens like to have an all-Rose garden. This is by no means a new discovery, as Rose gardens have formed most interesting features for very many years and generations. But there is now a desire on the part of small growers to pay more attention to the cultivation of our national flower.



PLAN OF A SMALL ROSE GARDEN.

In this note I do not intend to give lists of varieties suitable for the different positions shown in the accompanying plan, as the information on this point will be found from time to time in the pages of THE GARDEN by expert cultivators; I wish to show as plainly as possible how intending cultivators may arrange their beds in readiness for planting. The plan will act as a guide, as different arrangements may be made according to the individual taste of the cultivators; and, again, the shape of the garden must be considered. In the majority of cases, however, the plan given will apply. The beds, too, may be differently shaped, but the fact should always be borne in mind that the simpler they are, the more effective will be the display of Roses in them. Round, square and oval shaped beds are the best.

The soil must be trenched at least 20 inches deep before any trees are planted, whether the ground be light or clayey. No. 1 shows the path leading to the dwelling-house; No. 2, arbour; No. 3, path under arch leading to the vegetable, fruit or other part of the garden; No. 4, the top of the Rose pergola; Nos. 5, 5, 6, 6, 7, 7, beds in pairs to be planted as such or otherwise, Nos. 8 and 9 to contain a distinct variety in each, or a mixture with standards in the centre. Planting should be done from now till the end of March.

BERRIED SHRUBS FOR THE ROCK GARDEN

DURING the autumn and winter months, when rock garden flowers are by no means plentiful, the dwarf Cotoneasters, with their scarlet or red berries, and, in some instances, evergreen foliage, are interesting and beautiful. There are several species well adapted for planting at the summits of good-sized boulders, over which their neat, close-growing branches can trail; or, if preferred, such as C. horizontalis can be planted at the foot of a large rock, which, as it grows, it will hug so closely as to almost appear to be part of the rock itself. This is a deciduous species, but in autumn and winter its branches are bespangled with scarlet berries. C. microphylla, as its name implies, has very small leaves. It forms a neat little shrub, and is evergreen. It has red berries, and is perhaps the best of the older species for the rock garden. C. rotundifolia is deciduous or sub-evergreen, the leaves being nearly round and dark green in colour. It has red berries, which are usually produced in abundance. All three are natives of the Himalayas, and are not difficult to grow. C. adpressa was introduced to this country from China some years ago, and promises to be a very useful shrub for the rock garden. It is of very dwarf habit and deciduous, but before they fall the leaves turn a beautiful orange colour. It has small pink flowers, which are succeeded by red berries. C. humifusa or C. Dammeri grows only a few inches high, and is admirably adapted for trailing down the face of a projecting rock. It is evergreen, the foliage taking on a fine tint in autumn, which harmonises well with its scarlet berries.

All these Cotoneasters like good loamy soil, and C. humifusa appreciates a little peat mixed with the loam. They should be given a fairly deep root run; a foot is not too much for C. horizontalis, C. rotundifolia and C. microphylla. All can be successfully planted early in April, but it is advisable to obtain plants that have been established in pots.

OBITUARY

PROF. DANIEL OLIVER, LL.D., F.R.S.

WE regret to record the death of Professor D. Oliver, which occurred at Kew, in his eighty-seventh year, on December 21. For thirty years he was keeper of the herbarium and library of the Royal Gardens, Kew. He was born at Newcastle-on-Tyne and commenced his career by studying our native plants, and at the age of twenty he was fortunate enough to add a new genus to the British flora by the discovery of Naias flexilis in Connemara. In 1858 he went to Kew at the invitation of Sir William Hooker, and in 1864 became keeper of the herbarium, a position which he held until his retirement in 1890, but he continued to live at Kew until his death. He was a frequent visitor to the gardens and continued his botanical studies long after his retirement. His great services to botany were recognised by the conferring on him of the Royal Medal by the Royal Society (1884) and the Gold Medal by the Linnean Society in 1893. The interment took place on the 23rd ult. in the little burial ground attached to the Friends' Meeting-house, near Busch Corner, Isleworth

EDITORIAL NOTICES

Every department of horticulture is represented in THE GARDEN, *and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.*

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

PLANTS FOR CARPET BEDDING (*X. Y. Z., Lewes*).—We do not know of any yellow or pink foliaged plant of the same character as the dwarf Beet that will be suitable for working out designs in the flower-beds. Of yellow-foliaged plants suitable for carpet bedding there are the golden Pyrethrum and its dwarf form, Spergula pilifera aurea, Stellaria graminea aurea and Alternanthera paronychioides aurea. The plant referred to by you as an Echeveria is, we should say, Sempervivum tabulæforme, the surface of which is quite flat. As a dot plant the metallic-tinted, large-growing Echeveria metallica is very striking. Other desirable species are E. Desmetiana or Peacockii, E. farinosa and E. Schiedeckeri. Different succulents available for the same purpose are Kleinia repens, Mesembryanthemums of sorts, Pachyphytum Hookeri and Rochea falcata.

KITCHEN GARDEN.

APPLYING SULPHATE OF AMMONIA (*Constant Reader*).—Although sulphate of ammonia will not take the place of farmyard manure, it is a very useful manure when there is sufficient lime in the soil. If soil does not effervesce when a little of it is put in a cup and spirits of salts are poured upon it, chalk (in light soils) or freshly slaked lime (in heavy soils) should be added to the soil. The sulphate may then be used to supplement the addition of any vegetable refuse available, and it is especially useful if superphosphate can be added at the same time. It may be used for Potatoes at the rate of half an ounce to three-quarters of an ounce to the square yard, together with 1oz. to 1½oz. of superphosphate. Cabbages also benefit if the same quantity of sulphate of ammonia is sprinkled on the surface of the soil between the rows and hoed in. The same quantity may be used for Roses and fruit bushes. The trees will probably not require any if they are growing well, and the fruit bushes, if the soil has been well treated up to the present, will require it less than the vegetables.

DIGGING GROUND AND PLANTING POTATOES (*E. F.*).—Excellent results are obtained from cut seed Potatoes, but we prefer whole sets, provided they are not too small and that they have been well ripened. The Potatoes should not be cut until wanted for planting. A Potato may be cut into two or more pieces, according to its size and the number of eyes. A set must have one or more eyes. It is important that seed Potatoes should remain dormant until shortly before planting; therefore keep them in a light, cool, airy position and protect from frost. Of cut Potatoes it will take rather more than half a hundredweight to produce the quantity you mention, and three-quarters of a hundredweight of whole sets. Basta[illegible] the soil now, adding a liberal dressing of half-decayed farmyard or stable manure and sifted coal-ashes, also road scrapings, if available, to the bottom soil. This will make it more porous for the freer admission of rain and air, powerful agents in increasing its fertility. Add the following manures to the soil in spring a month before planting, forking them in 4 inches deep: Superphosphate of lime, 7lb.; nitrate of soda, 3½lb.; kainit, 3½lb. Mix together and apply to one perch or rod of soil. It will be a great advantage if you can apply a little fine soil and short decayed manure to the bottom of the rows, in which to lay the seed Potatoes. Give a top-dressing of soot before earthing up the first time.

FRUIT GARDEN.

HOW TO PRUNE MAIDEN APPLE TREES PLANTED LAST AUTUMN (*F. W. B.*).—Those on Crab stock to train horizontally as espaliers should be cut back to within three buds of their base, the two lower buds to train horizontally and the top vertically next summer. Those on the Paradise to train as bushes should be cut back to within five buds of their base. These will form the basis of the future bush.

PRUNING YOUNG VINES (*F. W. B.*).—There is no reason why your young Vines should be so severely cut back as suggested to you. At the same time, it is well not to leave the rods too long, in case the lower buds refuse to break freely. You will, however, be quite safe to leave 3 feet of the new cane when you prune. No time should be lost in pruning, or the Vines may bleed, which is bad for them. Do not force the Vines into too early growth in spring, but let growth come on naturally. You will then find that each bud will break freely enough. Serve them the same each year until the Vines have filled their allotted space. Seeing your Vines are growing so strong, you may safely take two bunches from each rod next summer. It will prevent the Vines from growing too strong. They may carry four or five bunches the following year, and seven or eight the year after.

WOOLLY APHIS ON APPLE SHOOTS (*E. M. S.*).—The Apple shoots sent are attacked by woolly aphis. The tree should be forcibly sprayed between now and the middle of February with either caustic soda or paraffin emulsion, the former being made by dissolving 2lb. of caustic soda in 10 gallons of water, the latter by dissolving 1½lb. of soft soap in some boiling water, adding a gallon of paraffin (such as Tea Rose or Solar Distillate), stirring thoroughly meanwhile, and then churning with a syringe for about a quarter of an hour, finally making up to 10 gallons with water. Summer treatment consists in painting with either linseed oil or methylated spirit every spot on which the woolly aphis is seen. At times the aphis lives on the roots of the Apple, and from these it may be dislodged by making four holes round the tree, about 18 inches from the trunk and 9 inches deep, and pouring a teaspoonful of carbon bisulphide into each.

MISCELLANEOUS.

BURNING TWITCH-INFESTED BRICK CLAY SOIL (*A. J. C.*).—Seeing that you are well provided with material for burning the soil, the best way to proceed, we think, would be to burn the surface soil to the depth of 6 inches. You would then get rid of most of the twitch and all the seeds which may be in the surface soil. Instead of burying this burnt surface soil deeply, reserve it for the top spit. Crops will succeed much better in it than if the deeper soil was brought to the surface. To open and make porous the deeper soil, add a liberal quantity of farmyard or stable manure (half-decayed only) and sifted coal-ashes to the bottom soil as trenching proceeds, also basic slag (in smaller quantities). Do not forget to break up deeply the bottom of each trench as trenching goes on. To burn the soil, build up your fires in the form of a cone, consisting of coal and wood. As soon as the fire is well alight, cover the whole heap with the top soil to the depth of 6 inches. Leave it on until you are quite satisfied that roots, grass, seeds, grubs, &c., have been destroyed. The soil may then be removed, the fire mended, more soil added, and so on until all is done.

Board of Agriculture Appointments.—The Right Hon. R. E. Prothero, M.P., President of the Board of Agriculture and Fisheries, has appointed Mr. A. W. Monro to be his private secretary, and Mr. A. Balfour to be his assistant private secretary (unpaid).

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 6s. 6d.; Foreign, 8s. 9d.*

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BEANS, KIDNEY	½ ,,	CARROT, Scarlet Inter.	½ ,,	PARSLEY	½ ,,
PEAS, Early (Gradus)	½ ,,	CELERY	½ ,,	PARSNIP	½ ,,
PEAS Maincrop	½ ,,	CRESS	1 ,,	RADISH	½ ,,
BEET, Pragnell's	½ oz.	LEEK, Musselburgh	½ ,,	SPINACH	1 ,,
KALE, dwarf curled	½ ,,	LETTUCE	½ ,,	TURNIP, White Stone	½ ,,

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THE GARDEN.

No. 2356.—Vol. LXXXI. JANUARY 13, 1917.

NOTES OF THE WEEK

THE Royal Horticultural Society will, the supply of labour permitting, carry out trials of late Peas, Broad Beans, Beet, Onions, Shallots, Leeks, wart-resistant Potatoes, Stocks (annual), Eschscholzias and annual Poppies at their garden at Wisley during the coming season. Seeds and bulbs for trial should be sent to the Director, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey (Horsley Station, London and South Western Railway), by January 31. The necessary entry forms may be obtained on application to the Director at the above address.

Southampton Royal Horticultural Society.—The fifty-fourth annual report refers to the good financial position of the society. The total income for the year amounted to £406 7s. 2d., and the total expenditure was £360 13s. 8d., including a debt from 1915. For this favourable result the society acknowledges its indebtedness to Ellen Lady Swaythling, who lent her beautiful grounds at South Stoneham House not only for the show, but also for a garden fête which proved a great success. Mr. C. S. Fuidge was re-elected secretary, this making his forty-fifth year in that position.

Potato Dunnottar Castle.—We were so pleased with this Potato last season that we recommend it to others in the hope that it will be more extensively grown. It is an early variety with perfect, kidney-shaped tubers, and an abundant cropper. Its large, shapely tubers and clean skin make it an excellent variety for exhibition purposes, but beyond that it is recommended for its disease-resisting powers, and for its splendid appearance and flavour when cooked.

THE PERFECT KIDNEY-SHAPED POTATO DUNNOTTAR CASTLE.

A Winter-Flowering Clematis.—Clematis calycina, a native of the Balearic Islands and Corsica, was introduced as long ago as 1783. An evergreen plant, its branches grow 12 feet or so in length, and its leaves are finely cut, from which the common name of Fern-leaved Clematis has arisen. The flowers are yellowish white with a few purplish spots. They begin to open during autumn, and at almost any time between that and March flowers may be found. It is better suited for the South and South-West Counties than for general planting, and should be given good loamy soil containing lime.

Desfontainea spinosa.—This attractive little shrub appears to be fastidious in regard to locality, even in districts where the climate generally is suitable. Like many half-hardy shrubs, it seems to appreciate a free soil and sharp drainage. The hardest frosts which we ever experience do not have any effect upon its Holly-like foliage. Propagation is easily effected by placing cuttings under a bell-glass in autumn, but they are slow in growth, and outdoor treatment is rather a tedious business in coaxing D. spinosa to attain the dignity of a shrub. At any rate, the compact habit of growth, glossy dark green foliage and large, trumpet-shaped flowers of scarlet wax with a golden lining are a combination worth achieving.

An Attractive Pyracantha.—The season of berried shrubs is almost over, thus the fact that Pyracantha angustifolia is in full beauty makes it of more than ordinary value. It may be described as on the borderland of hardiness, and, except in the South and West, should be planted in sheltered positions. In the London district several specimens are thriving and fruiting very freely on a west wall at the present time. Being evergreen, Pyracantha angustifolia is very suitable for clothing bare walls and fences. In summer the white May-like blossoms are attractive, followed in autumn by yellow fruits, which gradually change during the winter until at the present time the colour is a rich orange. When first introduced to this country from China by Lieutenant James in 1899 it was named Cotoneaster angustifolia, and under this name a coloured plate was published in The Garden on February 18, 1905.

The Vile Odour of Privet.—Many gardeners share with Mr. William Robinson his great dislike for Privet hedges, "which have the one poor quality of rapid growth, but which a man, let alone a beast, could walk through without effort." Many miles of monotonous Privet are planted annually in this country to the exclusion of far better subjects, such as Holly, Box, Yew, Hornbeam and Quick, and, where informal hedges are desired, Roses and Berberis stenophylla. Apart from its rapacity, complaints about the vile odour of Privet blossom in summer are frequent and well founded, and we conceive that it is quite a probable cause of much sickness at that time. A reader of The Garden who recently returned from China tells us that the unpleasant odour of Privet (presumably Ligustrum sinense) is responsible for much sickness in that country in the form of headaches, giddiness and fainting fits, and in consequence the governing bodies of large towns are put to considerable expense in having the Privet hedges and bushes repeatedly clipped at flowering-time.

**** Owing to the shortage of paper, readers who have not already done so are asked to order* The Garden *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

A Curious Sleeping Place.—That a blackbird should build in a hole in an Apple tree in "Anne Amateur's" garden is curious. In our garden a small black kitten sleeps every night, in snow, rain or cold starlight, in the nest of a thrush in a Clematis montana. Is not this more curious?—S. K. GARNETT-BOTFIELD, *Beamish, Albrighton, Wolverhampton.*

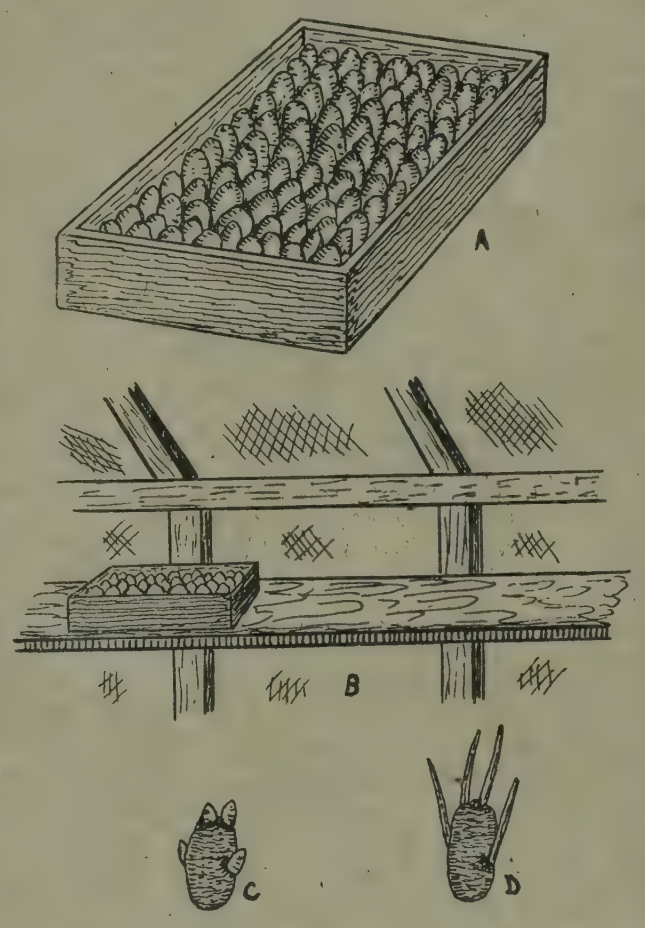
Mistletoe on the Elm.—In reply to Mr. N. G. Hadden (page 2, January 6), I can cite one instance and one only, of Mistletoe growing on an Elm. The tree stands on the golf links at St. Jean-de-Luz, near the frontier between France and Spain. I think it is close to the fifteenth or sixteenth hole; at all events, it is near one of the redoubts constructed by Maréchal Soult in defending the passage of the Nivelle against Wellington in 1814. There is a great deal of Mistletoe thereabouts, chiefly on Thorn and Apple trees, and I saw one clump on the aforesaid Elm.—HERBERT MAXWELL, *Monreith.*

Potatoes for Seed Purposes Only.—The Ministry of Food Production has decreed that every purchaser of seed Potatoes must give the seedsman from whom he purchases his seed tubers a written statement that the tubers purchased shall be used for seed purposes only. It would save your readers and us an immense amount of trouble and considerable delay if you would please announce the fact prominently in your columns.—TOOGOOD AND SONS, *Southampton.*

Sprouting of Seed Potatoes.—Success in Potato culture depends in no small measure upon the treatment afforded the seed. While practically all the large growers, whether for market or home consumption, recognise the utility of and practise the early setting up of seed tubers for the purpose of sprouting, the small grower frequently proves indifferent thereto. A little reflection will convince anyone that the first shoot produced must of necessity be the strongest, therefore best to set store by. Others which arise after removal of the first are not so productive, because a certain amount of the stored-up energy has been expended in the production of the first growth. It is advisable to commence the early setting up of the tubers, whether of late or early varieties. If specially made trays are not available, choose shallow boxes, placing the sets closely together, eye end uppermost. The boxes should then be stood on a shelf in a glasshouse where sufficient warmth exists to keep out frost. Light and air harden the sets, rendering them less susceptible to frost. —GEORGE D. ROWLES.

Nomenclature of Olearias.—In your issue of July 1 last there is figured a spray of a flowering shrub under the name "Olearia semi-dentata," which appears to me to be an error. Judging from the illustration, I have no hesitation in pronouncing it to be O. chathamica, which, like O. semi-dentata, is a native of the Chatham Islands, which lie to the east of New Zealand. There are several of our Olearias with purple discs, and of these O. chathamica is most amenable to cultivation and O. semi-dentata the most difficult to grow, as it grows in boggy ground. The former makes a neat, compact bush in my garden, and the latter is of an open, straggling habit. I have tried to grow it, but without success. Its ray florets are purple, while those of O. chathamica are only slightly tinged with a purplish hue when the flower first opens, but this generally fades quite away, leaving them pure white. As it is desirable that accuracy should be preserved in the nomenclature of plants, I write this to endeavour to prevent the perpetuation of what appears to me to be an obvious error. Apparently another of our New Zealand Olearias is misnamed in England. I refer to O. macrodonta, which is confused with O. ilicifolia, which it somewhat resembles but has broader leaves. I had some correspondence with the late Mr. Gumbleton on the subject, and by sending him leaves of each convinced him that what he had known as O. ilicifolia was really O. macrodonta.—A. BATHGATE, *Neidpath, Mornington, Dunedin, New Zealand.*

An Analysis of Apples.—As illustrating the amount of interest taken in the Apple, which stands out as the most precious fruit of temperate



SPROUTING SEED POTATOES.

A, *Tubers set on end in shallow box;* B, *Placed on suitable shelf in glasshouse;* C, *Well-sprouted tuber, two growths of which should be removed at planting-time;* D, *Tuber allowed to remain in store. Note the difference in the shoots produced.*

climes, it may be noted that in THE GARDEN during the year 1916 no fewer than twenty-four articles dealing with the best varieties appeared. Some of them referred to but a single variety, while others gave a long list of desirable kinds. This is exclusive of cultural notes, &c., in which no particular varieties were named. A notable feature is the long list of varieties recommended, eighty in all. Individual taste will doubtless account for much of this difference of opinion, also the fact that most of the varieties are somewhat capricious in their behaviour, and even if a success in one district may be a comparative failure in another. The figures indicate the number of times each variety is referred to. The well-tried Cox's Orange Pippin, though condemned by some, heads the list. It is somewhat singular that the distinct D'Arcy Spice is not mentioned by any writer. It does poorly in many districts, but its spicy flavour appeals strongly to some people. Below is the complete list of varieties recommended:

No. of Times Mentioned.	*Variety.*	*No. of Times Mentioned.*	*Variety*
8	Cox's Orange Pippin	1	Charles Ross
6	James Grieve	1	Chelmsford Wonder
6	Newton Wonder	1	Christmas Pearmain
5	Adam's Pearmain	1	Coronation
5	Bramley's Seedling	1	Court pendu Plat
5	Claygate Pearmain	1	Cox's Pomona
5	King of the Pippins	1	Devonshire Quarrenden
5	Blenheim Orange	1	Domino
4	Bismarck	1	Downton Pippin
4	Lane's Prince Albert	1	Duke of Devonshire
4	Worcester Pearmain	1	Ecklinville Seedling
3	Annie Elizabeth	1	Ellison's Orange
3	Langley Pippin	1	Gascoyne's Seedling
3	Lord Derby	1	Golden Pippin
3	Peasgood's Nonsuch	1	Gravenstein
3	Ribston Pippin	1	King Edward VII.
3	Stirling Castle	1	Lord Burghley
2	Allington Pippin	1	Margil
2	Emperor Alexander	1	May Queen
2	Fearn's Pippin	1	Mère du Ménage
2	Gascoyne's Scarlet	1	Mrs. Phillimore
2	Grenadier	1	Nonpareil
2	Lady Sudeley	1	Old Winter Nonsuch
2	Lord Grosvenor	1	Pineapple Russet
2	Lord Suffield	1	Pott's Seedling
2	Orleans Reinette	1	Reinette du Canada
2	Rev. W. Wilks	1	Rival
2	Tower of Glamis	1	Rosemary Russet
2	Warner's King	1	Roundway Magnum Bonum
1	American Mother	1	Schoolmaster
1	Barnack Beauty	1	Sturmer Pippin
1	Baumann's Red Reinette	1	Thomas Rivers
1	Beauty of Bath	1	The Houblon
1	Beauty of Kent	1	Transparent de Croncels
1	Belle de Boskoop	1	Van Mons Reinette
1	Benoni	1	Wealthy
1	Ben's Red	1	Wellington (Dumelow's Seedling)
1	Brownlee's Russet	1	White Transparent
1	Byford Wonder	1	Yellow Ingestre.
1	Cardinal		
1	Cellini		

—H. P.

Freesias: "For the Third Time of Asking."—I am very greatly indebted to Mr. Woodall for his note on page 544, November 11, 1916, about the behaviour of Ornithogalum arabicum and for his incidental allusions to the non-starting of Freesias; but his remarks do not seem to explain the inconsistent behaviour of the last named when the starter, by potting up the bulbs in August, lets down the "gate." Why do some—a minority—refuse to budge an inch and remain standing still? Mr. Woodall's thesis about "too great extremes of temperature during their resting period, and to be potted up and then exposed to heavy cold rains or injudicious watering completes the paralysis that has been engendered," does not account for some Freesias rushing ahead and others, which have had exactly the same treatment, standing still. My plants of Ornithogalum arabicum, every one of them, refused to move; *ergo* the supposition is, in all probability, correct as far as it is concerned. I may say that all mine have now started growth again after having been dormant about eighteen or nineteen months. I think I called them "tired Timmies," but they have been far from idle, for every bulb has broken up into many small ones. I have found that about February, when the bulbs which went ahead at once are in bloom, these non-starters then threw up a fair-sized corm on the surface of the pot, and that they not only did this, but they were busy—just like the others—underground, for when the soil was turned out of the pots in June or July one found quite a good increase. A lady who bought some of that beautiful yellow variety, Buttercup, in 1915 has found that a few of hers which were repotted last August have developed this irritating "way," and asks for an explanation and how such behaviour may be avoided in future.

Hence "for the third time" I venture to ask Mr. Woodall and other readers of THE GARDEN—more especially Buttercup's godfather, my dear old friend Mr. van Tubergen—if they will tell us more about this strange wilfulness. When we hybridists have had a little more time given us to work at our job, coloured Freesias will be coloured Freesias indeed, or I am much mistaken.—JOSEPH JACOB.

Schizostylis.—If you judge that your readers are not already bored to tears by the seemingly interminable discussions anent this plant, will you spare me space to point out that your correspondents all appear to miss the essential points in the cultivation of it? Schizostylis is naturally a plant of stream banks and ditch sides, and though, as we all know, it is often a mistake to attempt a reproduction of natural conditions in the cultivation of foreign plants in gardens, it is not so in the case of the plant under notice. It should be planted in a flat-bottomed trench 3 inches deep, a foot wide, as long as you please, and in the sunniest spot available. From midsummer till October, and after that if the season is dry, the trench should be kept moist. This method of cultivation is set out in general fashion in "The English Flower Garden," and if it is followed and the autumn proves genial, Schizostylis will come to its own. Only those who have seen it know what that means. But except in maritime districts in the South and West, the growing of plants that come into bloom after the autumnal equinox is always a gamble. Once in a while the inland gardener may bring off a *coup*, but the game is seldom worth the candle. The adoption of the same method of cultivation in a frame or cold house makes for certain success. Moisture and sunshine, a rich soil and not overmuch lime are the essentials.—A. GROVE.

The Hardiness of Camellias. Referring to Mr. Moffat's letter in your issue of December 30, page 620, as to the hardiness of Camellias in England, the Camellia is, as your footnote states, even hardier than the Laurel. Perhaps your readers may not have heard of the enthusiastic amateur who, being determined to grow Camellias in his garden, hedged them round with Laurels. Soon after a severe frost he found to his surprise that the Laurels had been killed, but the Camellias had not "turned a hair." If Mr. Moffat and others wish to see Camellias naturalised, let them visit Wisley in spring, and they will be rewarded for their trouble, unless there happen to be blighting frosts, when, as you say, the flowers are spoilt; but Camellias are not the only plants which suffer under a similar visitation. June is the month to plant out Camellias. Many a woe-begone looking specimen from a conservatory, planted out then in peaty loam and kept supplied with water when needful, will in time rival the Laurel in luxuriance of growth.—B., *Weybridge*.

Colour Standardisation.—My article on "The Corsican 'Maquis'" has brought me a long letter from British Columbia. The writer is Mrs. Kerr, and the subject "Colour Standardisation." It appears to have been written with a desire to get a new edition of Dr. Ridgeway's book on this subject published. She suggests that now is certainly the time for promoting this scheme, forgetting that we in the homeland have far greater matters with which to occupy ourselves. The writer goes on to state that it should be taken up by amateurs, and not by "salaried and often narrow-minded professionals." While admitting that something of the kind would certainly be convenient in the dye and paint trades, I cannot see the great importance of it to flower-lovers. Surely half the pleasure of sowing seeds is seeing what fresh colours will appear. How dull the delightful articles of Mr. Farrer or Mr. Bowles would be if, instead of their unique descriptions of plants, they contained only "43 B.G. 40" and the like, as Dr. Ridgeway suggests. Personally, I much prefer "a little bit of sunset on a stalk"—to quote a distinguished author—as a description of Nigritella to various odd letters and figures.—W. HERBERT COX.

ROSE CHRISTINE OF LUMINOUS GOLDEN HUE.

FORTHCOMING EVENT

January 16.—Royal Horticultural Society's Meeting and Exhibition at the Drill Hall, Buckingham Gate, Victoria Street, London.

ROSES OF RECENT INTRODUCTION

BY THE REV. DAVID R. WILLIAMSON.

MANY new varieties of the greatest interest, for the most part of British and French production, have recently been introduced. It is only courteous to begin with the French introductions. Conspicuous among these have been such fine hybrids as Mlle. Cariste Martel, Raymond, Mrs. Bullen and Mme. Colette Martinet, which, possessing the famous Pernetiana attributes of form, colour and refined fragrance, will doubtless enhance the reputation of their redoubtable raiser, M. Pernet-Ducher, whose beautiful Constance, sent out last year, is unquestionably one of his finest creations. Here, in a uniquely sunny situation, it was somewhat more of a primrose colour when fully expanded than Rayon d'Or. His Totote Gelos is also a very charming and floriferous Rose, while Admiral Ward is an invaluable acquisition to the scarlet-shaded maroons.

Among the most notable of the latest British introductions are Paul's Scarlet Climber, Nellie Parker, Miss Stewart Clark, Lemon Pillar, Lady Bowater and Mr. McGredy's brilliant Christine, some of which have already achieved an enviable reputation. The Scarlet Climber, which has been awarded the gold medal of the National Rose Society, is a lustrous, semi-double Hybrid Wichuraiana of splendid endowments and artistic capabilities, probably the grandest Rose of its special character that has been sent out by the great Waltham Cross firm (or any other) during the last decade, and that is saying much. Its companions here are the exquisite Souvenir de Pierre Notting and the perennially popular Rêve d'Or, whose treatment at the hands of amateur cultivators (who for the most part leave it "severely alone") is by no means intelligent or productive of adequate results. Nellie Parker, like Christine, is another gold medal Rose of the greatest distinction, almost pure white in complexion, with a delicate suffusion of cream in the central petals, the creation of that consummate rosarian, Mr. Hugh Dickson of Belmont Nurseries, Belfast, who has also given us Prince Charming (already artistically figured in THE GARDEN), Cleveland, Mrs. Mona Hunting and Ulster Gem, of which the uniquely gifted introduction last mentioned is a lovely single Rose of primrose yellow hue.

From the world-renowned nurseries of Messrs. Alexander Dickson and Sons, Newtownards (from which within the last ten years have emanated a vast number of the grandest varieties of which we have any record in the history of hybridisation, and which should be sufficient to rank them with the greatest rosarians that have hitherto appeared).

have recently come several Hybrid Tea or Pernetiana Roses of commanding characteristics, two of the very finest being Mrs. Wemyss Quinn and a later and even more impressive variety entitled Miss Stewart Clark. The former was one of the most radiant beauties in this garden last year. Augustus Hartman (my only plant of that highly effective, nasturtium red variety, introduced by Messrs. B. R. Cant of Colchester) succumbed during last winter, soon after it was planted, to a sudden severe frost. I hope this variety may be more fortunate hereafter, when I give it a new trial in a less exposed position.

It would be superfluous to eulogise Mr. McGredy's intensely luminous Pernetiana entitled Christine, which made such an impression when recently exhibited before the National Rose Society. It is generally regarded as a distinct advance in radiance and transparency of complexion on its immediate predecessor, Iona Herdman, which was one of the most attractive Roses in our gardens last year.

Two of the very finest varieties of recent origination are Mr. George Paul's Lemon Pillar, which has a charming Maréchal Niel fragrance; and Mr. Walter Easlea's Lady Bowater, a cross between Pharisaër and Frau Karl Druschki.

ROSE NELLIE PARKER, A NEW SEEDLING OF REFINED BEAUTY IN FORM AND COLOUR.

THE ALPINE POPPIES

By H. CORREVON.

IN the last thirty years one has seen in the mountains of Switzerland, here and there, the gardens adorned with that beautiful Poppy called Iceland Poppy, although the plant is Asiatic as well as boreal. The famous traveller Bonvallot, who traversed Tibet thirty years ago with the Prince of Orleans, brought me from his journey some seeds of a yellow Poppy which was nothing else than Papaver nudicaule in its form croceum. I planted this variety, with several others obtained from England, in our garden Linnæa in the Alps and in that of the Roches de Naye, above Montreux (at 6,000 feet elevation), and at both places we soon had a collection of forms and colours, the Asiatic type having crossed with the pure alpine type, P. alpinum, and its varieties. Now the plant has become quite naturalised and grows like a weed everywhere on the top of the Roches de Naye and in the Linnæa garden. The peasants in Valais took seeds of it to sow in their cemeteries and gardens, so that Iceland Poppies are now among the commonest plants there. Twenty years ago I planted it at Arolla, and the plant grew so well that all the peasants introduced it to their gardens in the Val d'Hérens. The Cemetery of Evolène is now one of the places of the country which is the most visited. Artists come to take photographs of the wonderful sight, and everyone speaks of the beauty of the picture made in the lovely frame of the Alps by these alpine Poppies; but the true alpine Poppy (P. alpinum) is far better than the exotic one. It is the rarest, too, as it crosses so easily with its boreal cousin and loses its character very easily. We are obliged in our mountain gardens to banish every Iceland Poppy in order to avoid the cross between both races; then we can grow P. alpinum, P. Burseri, P. Kerneri, P. pyrenaicum or rhæticum, which are all forms of the most exquisite of all the Poppies, and even of the alpine flora. They are, of course, local forms of the common type. Kerner (in "Jahrbuch des Oet. Alpenvrein," Vol. IV., 1868, pages 296–308) and Ascherson (in "Bot. Zeitung," t. 27, 1869, pages 121–129) both tried to settle the question of the alpine Poppies and of that of the North regions (P. nudicaule). There are certainly two distinct forms of P. alpinum, one being smooth and having the leaves very finely cut. The flowers are generally white or yellowish; sometimes white with yellow spots on the petals—this is called flaviflorum. The other is P. rhæticum (=pyrenaicum auct, not L.) which has the leaf segments broader and entire. The flowers are very fragrant and generally yellow, but are white if on chalky ground. In the Engadine, and particularly at the Bernina, the flowers are deep orange yellow.

The P. pyrenaicum of Linné is yellow, and has very heavy leaves. There is a P. Kerneri with finely cut leaves, very short stem, and small, light yellow flowers. It is the minutest of all the alpine Poppies.

I think it will be of help to the readers of THE GARDEN if I give them some hints about the culture of all these very delicate alpine treasures. Last summer I was near the Bernina glaciers, and passed some hours there in contemplation before the best picture I ever saw in my life. There was a moraine—not the moraine of your English gardens, which has nothing to do with the right moraines of the Alps—and this was covered with such a carpet of flowers that my mind was quite transported. Between the grey stones emerged myriads of large yellow and orange flowers, sometimes very fragrant. The picture was made by Geum reptans, which was there in millions of plants, and Papaver rhæticum, this one being the most fragrant. The ground was only gravel (moraine) or sand. No humus was to be seen. This is how we grow our P. Kerneri here, and it does splendidly. On the top of our wall it brightens the wall garden and flowers the whole summer. The soil is poor and stony, the situation sunny and very windy.

All the alpine Poppies like windy situations. In these positions we plant all the alpine Poppies and obtain good results. But do not forget that in order to obtain true seeds you must never let the different forms grow together in a garden. They all give large crops of seeds and come very easily by sowing. Of course, if you do not wish to obtain true seeds, you may let the plants grow how they like. You will then find great variations. Poor, gravelly soil and sunny places are the best for them.

A CHEAP HEDGE

WHEN utility in a hedge is the object and time is on one's side, an impenetrable hedge may be made at little or no cost by using Gooseberry prunings. The twigs should not be made into cuttings, removing the lower buds, but merely dibbled in about 9 inches apart, and for choice in a double row, on the site of the hedge. The Gooseberry twigs soon root, and during the first season throw up stout, spiny growths from the buried buds. As with all hedge plants, severe pruning should be practised for two or three years, so as to ensure a densely furnished base; then one gets a thick, prickly hedge which will turn aside even an energetic and inquisitive terrier. The best and quickest hedges are made when the erect and drooping-habited sorts are mixed. If the hedge is wanted more quickly, two year old bushes may be purchased cheaply and planted 2 feet apart, layering the outer branches.

CECIL BARTLETT.

LAWN MOWERS

THERE are two very distinct types of these machines, the collectors and non-collectors. Both have their uses, as I will presently explain. For all-round work I would certainly place the collector type first, as it is usually a more lasting machine than the other, and if kept in good order will do more finished work. There are several good makes of the collector type, Green's, Shanks' and Ransomes' being the first three that occur to me. Green's is the only make I am personally acquainted with, and though there may be machines to equal them, I doubt if there are any better. My firm had one of these machines in constant use for thirteen years, at the end of which time it was sent to the makers, who put in certain new parts and generally did it up, and it has since done good service for some six or more years!

Of the non-collecting type I place the "Pennsylvania" first, principally because it was the first good one to appear; secondly, because I have one and find it very useful. All our leading English makers produce machines on the lines of the "Pennsylvania," which may be as good, but I cannot speak from experience. These machines are wonderfully light running. A 14in. one is quite easy work for a man, whereas the same-sized "Green" generally requires a man and a boy. These machines should be used during hot weather, when it is often advisable to leave the mown grass on the lawn to protect the grass roots from the sun. Never try to mow with them when there is much growth on the lawn, for they resent big crops and make but a poor job of them. Their chief value lies in the fact that one can run them very quickly over the lawn so frequently that the grass never gets ahead. The "Pennsylvania" and its English cousins are all high-geared machines, the cutting cylinder revolving at a great rate. On account of this they require rather different setting from what is suitable for the lower-geared machines. The cylinder should be so set that it will revolve quite freely without any grating against the bottom knife. If any alteration is necessary, great care should be taken not to overdo it. A very slight turn of the adjusting screws is sufficient.

Care of Mowers.—One of the most important points is the correct adjustment of the cylinder in relation to the bottom knife. If it is the least bit too tight, it will go very hard and will cause damage to the machine. When properly set, the cylinder knives should just touch the bottom blade, while allowing the cylinder to revolve freely without any unpleasant sound or feeling. A good test is to place a piece of paper between the knives and gently turn the cylinder by hand. If correctly adjusted, the paper will be cleanly cut.

Always keep the bearings well oiled with proper machine oil. The bearings of the cutting cylinder will require the most frequent oiling, as they get more friction than others. Never put a mower away dirty; clean the rollers, brush off all bits of grass or grit from around the bearings, and finally wipe each cutting blade separately with a bit of oily rag. The last "tip" was given me by one of Green's agents, and I have ever since been grateful for it; it means a lot of difference to the cutting of the mower the next time it is used. Before commencing to mow, always oil the edge of one of the blades for its whole length and then revolve the cylinder; this simple act often makes all the difference between a good start and a bad one.

My own opinion is that a mower, to do good work, must be sharpened once a year at least. Unless you are very sure of getting the work done properly by a local firm, it will pay to send the mower to the maker. Do not wait until the spring before sending the machine to be done up, or ten to one you will not get it back until the grass is a hay crop. Send it off early in January. It will then get full attention and come back in plenty of time for the first mowing.

J. DUNCAN PEARSON.

Lowdham, Notts.

A WELCOME SNOWDROP.

Galanthus byzantinus.

SNOWDROP NOTES

BY EDWARD H. WOODALL.

Galanthus byzantinus and Others.—Last year I mentioned the success of some groups of a Snowdrop that had been planted for several years in my valley where the summer drought is greatly mitigated. Thanks to Mr. Bowles' excellent drawing of his specimens of G. byzantinus [Herewith reproduced.—ED.], I was able to recognise their identity with my plants, especially when their habit of producing two, and sometimes even three blooms in succession from the same bulb is taken into account. This year I am glad to say they are more vigorous and thriving than ever after a hot and rather trying season; so G. byzantinus may fairly be considered a Southern form of Snowdrop which begins to flower at the end of November and lasts well into February, when the type and later forms struggle to perfect their flowers, living on only by sufferance as they do. This robust and giant form is therefore very welcome both here and at home. In 1915 I got also some bulbs named G. Fosteri, which did not flower, as they were so weak, but I obtained a few very fine flowers and leaves from some of these bulbs last autumn. If this is the type of G. Fosteri, it is a still finer thing, and flowers so early that I see the first blooms opened on October 27. Its flower is like that of the ordinary Snowdrop very greatly enlarged, and without the dark green markings on the petals; indeed, the whole plant is much brighter green, in foliage as well as in markings, and its broad leaves are markedly undulated and not turned back as in G. plicatus and G. byzantinus. If this is the true G. Fosteri, it must, I think, be quite a Southern form, and is as vigorous here as G. byzantinus. Quite fifteen years ago I planted a patch of G. octobrensis in the wood, unfortunately in a rather drier position, as I did not then know the lie of the land thoroughly. This patch has survived but has not increased. I do not think they "retrograde" in this climate (Nice).

DIANTHUS ALLWOODII

FEW varieties of plants are quite common in the horticultural world, but an entirely new race of plants is an incident of note. The newly introduced race known as Dianthus Allwoodii is an acquisition, since it can be grown by anyone in any ordinary garden. It simply excels on rock gardens, dry walls or in window-boxes.

D. Allwoodii originated from numerous crosses carried out with different species of the Dianthus family, and was eventually obtained after six years of extensive research with many thousands of seedlings. The expenditure in the final cost of production was largely increased by the standard that was set to obtain a true, hardy, herbaceous plant that was capable of flowering over an extended period without deterioration of constitution.

The habit of growth of the plant is similar to that of the common garden Pink, except that the growth is much stronger and more rapid. With this great charm the plants commence to flower in May, and continue to produce an endless supply of bloom until late autumn. They have the delightful perfume of the garden Pink, but a stronger and slightly longer stem, with sound calyx; while the range of colour even now is wonderful, but the future will undoubtedly unfold almost every known shade. Many of the varieties have the beautiful eye or lacing of the old show Pinks which were so popular a decade ago, when the weavers of the North held their spe ial Pink shows and looked upon it as the most beautiful of all flowers.

The flowers of D. Allwoodii are double, semi-double and single. Some varieties produce blooms measuring 3 inches and grow 2 feet high; others, quite small blooms and grow only a few inches high. There are fringed flowers and those with smooth-edged petals. Couple all this with the perfume, variety of colours and combination of the same, and ease of culture, and the future of D. Allwoodii must be apparent to all.

The raisers, Messrs. Allwood Brothers, Carnation specialists, of Hayward's Heath, describe their creation as "the most reasonable plant in the world," because all it requires is a direct light. It flourishes in any soil, and is readily propagated by cuttings, pipings or layers, which root easily from May to October, or by division in the early autumn. If the plants are not propagated, they grow into large clumps, and continue to flower for upwards of three years if manured and attended to. The use of the short-growing varieties for edging, intermixing with Roses, bulbs and other plants will be extensive; while other kinds will be used in herbaceous borders and for special beds, in vases, &c. Their suitability as pot plants for cultivation in cold conservatories and frames for the production of early spring flowers adds greatly to their value, many of the varieties producing pyramids of bloom under this system. Their glorious bluish green foliage in winter is not the least beautiful feature.

Another great charm of D. Allwoodii is that they can be planted in the garden, window-boxes, &c., at any season of the year, simply because they are perpetual growing from spring to winter, can withstand excessive drought like nearly all Dianthuses, and, being hardier and more robust than the old Pink, the excessive wet of winter does not affect them. This is only to be expected when their parentage is considered, a point that is also responsible for the charming variation of the flowers in form and colour.

The culture of D. Allwoodii is ridiculously simple, and closely resembles that of the old garden Pink. No amount of rain, frost or snow can hurt them; in fact, the foliage assumes a lighter tint and appears to revel in it. Propagation by divisions can be done, but not so successfully as in the case of the Pink. Yet another feature of this plant is that it may be grown in pots for late autumn flowering in the greenhouse or for forcing into bloom in the early spring; so there is little wonder that the scientific committee of the Royal Horticultural Society gave a unanimous vote of appreciation to this new race of plants

DIANTHUS ALLWOODII, A NEW HYBRID PINK OF GREAT PROMISE.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Vegetables Under Glass.

French Beans.—Sow five seeds in a 4-inch pot, which is a better way of economising space than sowing direct into 8-inch fruiting pots, as the seedlings can be readily transferred to these later on. If stood on the evaporating troughs in the Cucumber-house or elsewhere where they can obtain bottom-heat and a night temperature of 65° or 70°, they will quickly germinate. If the soil is moist, water will not be required until growth is on the move. Afterwards they should not suffer from the want of it. The plants will need a light position near the glass to induce a sturdy growth.

Cucumbers in Fruit.—These require constant attention as growth proceeds. Thin out the lateral shoots, allowing space for free development of growth. Thin the fruits on the clusters to one; overcropping is a sure source of failure. The fruits when too thick cannot swell freely, turning yellow at the points. If mildew makes its appearance, dust the affected parts at once with sulphur, and avoid atmospheric moisture. Instead of syringing the plants, it is safer to depend upon moisture arising from the beds, floor, or evaporating troughs. Maintain a night temperature of not less than 65°.

Plants Under Glass.

Geraniums.—Plants for next season's bedding should be kept rather dry at the roots, especially if the temperature is low, to avoid damping off. Pinch out the point of each shoot to induce a stocky growth.

Fuchsias should be pruned to within an eye or two on established plants, small or large, to keep them a good shape. Keep these also for a time somewhat dry at the roots.

Cyclamens coming into bloom or those throwing up the flower-stems should be carefully watered. Too little water checks the development of the flower-stems and blossoms, while too much in a low temperature tends to damping in the crown of the plant. Plants in small pots need weak liquid manure occasionally. Sulphate of ammonia, applied at the rate of half an ounce to a gallon of water, is a quick-acting stimulant.

Primulas of all sections need a light position near to the glass to encourage a stocky growth and stout flower-stems, and also require careful watering.

Cinerarias.—Keep these free from green fly by fumigation. Those throwing up their flower-trusses should have manurial aid, as the plants are gross feeders, yet can be flowered in quite small pots. The Celery fly often attacks the leaves, quickly disfiguring them if not checked. Squeezing between the finger and thumb is an easy way of killing the grubs between the upper and lower parts of the leaf.

Chrysanthemum Cuttings.—No time should be lost in securing cuttings of all large-flowering varieties of Chrysanthemums. Insert them singly in a sandy compost in small pots and place in a handlight or small frame in a cool house, keeping them close for a time until roots are formed. To disperse condensed moisture in the handlights, open these for an hour daily.

The Flower Garden.

Bedding Plants.—Beds planted with Primroses, Wallflowers, &c., will be all the better if the surface soil is stirred with a Dutch hoe, as the recent heavy rains will have settled the soil down too firmly, making a thick crust, which impedes growth by the exclusion of air to the roots. Vacant beds should be prepared for the summer occupants by deep digging, or, where the subsoil is heavy, by trenching, keeping the surface soil in its present position, this being easier to manipulate later on. Leave the surface as rough as possible to be broken down by the weather. For strong-growing subjects like Cannas, Fuchsias or sub-tropical plants, a small quantity of stable manure added to the soil during this preparation will be an advantage later on.

Pruning Rambler Roses.—Complete the pruning of Rambler Roses, cutting away all of last season's flowering shoots, giving space for the stout sucker-like growths of the current year. In the case of pillars, if there are signs of bareness at the base and shoots are numerous, a few of various lengths may be shortened back to induce added growth to furnish that portion of the pillar.

The Alpine Garden.—Now is a good time to overhaul portions of the rock garden where early subjects, such as Anemones, Hepaticas, &c., are on the move, removing decaying leaves and weeds. Stir the soil and top-dress lightly with a compost of loam, leaf-mould and sharp silver sand. This will give a tidy appearance and encourage freedom of growth.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—The principal work in this department is digging and trenching during open weather, while if stormy and unsuitable for outdoor work, roots in store may be inspected and picked over, Potatoes especially requiring attention this season. Some useful labels may also be prepared, while Pea-sticks should be examined and any new ones pointed and made ready for future requirements. The tool-shed ought also to have a good tidying up at this time, and any implements that require repair should be put right now and so be prepared for pressure of work later on.

Sowing of Seeds.—It is now necessary to make a few early sowings of seeds, including both flowers and vegetables. Antirrhinums, Salvias (Fireball and Scarlet Queen), Begonias (both fibrous and tuberous rooted) and Pentstemons may now be sown, while the main sowing of Onions for large bulbs may also be made. The best and most suitable kinds for the district should be chosen, and with us none proves more satisfactory than Ailsa Craig Selected and Cranston's Excelsior. Sow in well-drained boxes filled with a mixture of good loam, leaf-mould and gritty sand, using it in a moderately dry condition. Press firmly and sow thinly and regularly. Failing a well-heated pit, a very suitable place for raising the seedlings is an early Peach-house or vinery. A sowing of Leeks for early use may be made in a like manner.

Forcing Seakale, Rhubarb and Asparagus.—Batches of Seakale and Rhubarb should still be planted for forcing, selecting good strong roots for this purpose. Asparagus should also be put in, as a dish of this delightful vegetable is highly esteemed at this time of the year. A Mushroom-house is much preferred for the first two, but the bed of a Melon pit is most suitable for the Asparagus, although, where inside accommodation is limited, a very satisfactory lot may be raised by means of a well-made hotbed. It is essential that strong crowns be used, or the crop may prove disappointing.

The Flower Garden.

Replanting Perennials.—If suitable weather, beds of Michaelmas Daisies may now be replanted. Give the ground a good deep digging and incorporate some well-decayed manure or old hotbed material, and if the natural soil is heavy, a proportion of good leaf-mould is a decided help towards the successful cultivation of these most beautiful autumn-flowering plants. Where beds are impoverished through the same plants being grown for a number of years, such as Pæonies, Pyrethrums and Delphiniums, a good plan is to utilise the soil out of Melon and Cucumber beds; this generally contains some unexhausted manures. The results are most encouraging, and where too much is not attempted in one season, the extra time expended is of a commendable nature.

The Fruit Garden.

Training Peaches.—Generally the latest trees on the walls to receive attention are the Peaches, as with us the wood is long in ripening; but the trees will now be untied and the young growths judiciously thinned, so that when retied they will be about 6 inches from one another.

Morello Cherries.—Owing to depleted staffs Morello Cherries will in many cases not receive the careful tying they had in former years; but if the wood is thinned out and the best growths lightly tied in, no great harm will ensue, though the trees may not be quite so symmetrical as one would wish.

Bush Fruits.—If the ground is in good condition, new plantations of Gooseberries or Currants may be completed, while any blanks in the main breaks should be made good.

Plants Under Glass.

The Conservatory.—In the conservatory the various Primulas are now making a pleasing display, while the earlier Cyclamens are also well flowered. A little weak liquid manure will prove a help to them at this time, while the atmosphere should be kept as buoyant as possible. Chrysanthemums are now fairly well past and should be cleared away, with the exception of the necessary stools for cuttings. Cytisus will come in handy to fill the blank in the meantime, and the introduction of a few more Palms will give a pleasing effect.

Forcing Shrubs.—A number of plants of Staphylea colchica, Azaleas and Rhododendrons should now be put into heat to keep up the display later, and the most should be made of the flowering shrubs this season, owing to the scarcity of bulbs in many places. Both Spiræa confusa and S. multiflora are delightful subjects for early forcing. Roman Hyacinths promise well, and with small Ferns will be used for filling bowls for drawing-room decoration. The Duc Van Thol Tulips are much missed just now, their pleasing brightness always being welcome during the first month of the year.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

PEA DWARF PEERLESS MARROWFAT.

AN EARLY MARROWFAT PEA

THE well-known firm of Messrs. Webb and Sons (Stourbridge), Limited, have introduced a number of excellent Peas, including their popular Senator, which is such a remarkable cropper. In Webb's Peerless Marrowfat we have a new Pea which bids fair to outrival Senator. It is a dwarf variety not more than 2 feet high, and produces a plentiful supply of well-filled pods. In addition to giving prodigious crops it is an early Pea of very fine flavour.

BRUSSELS SPROUTS

FOR table use small, solid sprouts are mostly preferred. A capital variety I grew extensively for several years was May's Northam Prize, and for small, solid sprouts and lateness I thought it one of the best. Since then I have been more than satisfied with Sutton's Dwarf Gem, a variety that has become very popular, and deservedly so, for the sprouts are just the size for table use, and it may with advantage be planted more closely than some of the stronger and larger kinds. Another good variety is Veitch's Paragon. The sprouts are very solid and abundantly produced. Brussels Sprouts require ample room and rather firm, rich, deeply cultivated land. When allowed plenty of room, the plants grow more sturdy and yield better and firmer sprouts. In cold districts it is necessary to raise the plants in a little heat, but in the more favourable parts, if the seed is sown outdoors about the second or third week in March, good plants will result in time for planting out by the first week in June, which in due course will produce excellent sprouts.

H. MARKHAM.

ANSWERS TO CORRESPONDENTS

TREES AND SHRUBS.

FUCHSIA RICCARTONII (*E. C.*).—The plants of Fuchsia Riccartonii alluded to have been growing in their present site upwards of forty years. They are not pruned, but allowed to grow away uninterruptedly. This Fuchsia does not die down naturally; sometimes it is cut down partly by severe frost. On the East Coast plants grow 12 feet high and are never pruned. In some localities they do not grow so tall, but are more spreading in their habit. We advise you to allow them to grow without pruning if you wish to have them tall.

SUMACH LEAVES (*Mrs. E. S.*).—The specimen sent for examination is not the Poison Sumach, or Poison Ivy as it is more often called (Rhus Toxicodendron), but the Staghorn Sumach (R. typhina). R. typhina is not known to possess poisonous properties in the same way as R. Toxicodendron, although it is possible that certain people might be affected if the sap came in contact with the skin. As the plant is so common, however, it is unlikely that it can be very harmful, or injury caused by it would have been noted on many occasions. R. Toxicodendron is easily recognised by means of its three-parted leaves.

THE GREENHOUSE.

TREATMENT OF BEGONIA GLOIRE DE LORRAINE (*A. H.*).—If the only glass available for Begonia Gloire de Lorraine is a lean-to house with a winter temperature of 45° to 50°, we fear that you will not be very successful in growing this Begonia. It would be all the better if the house was 10° warmer. Then, when the flowers are over, the plants should be shortened back to 6 inches or 8 inches from the pot, and less water be given for a month or so. At the expiration of that time, if the plants are taken into a warmer structure and syringed during bright days as well as giving more water at the roots, they will push out new growths, which, when about 2 inches in length, may be taken as cuttings. In a close propagating-case, in a temperature of 60° to 75°, they will soon root. If you have no convenience for this, after the old plants are cut back they may be stood at the warmest end of the greenhouse, and when new growth appears they should be repotted in a mixture of loam, leaf-mould and sand. It is quite possible that when some of the old soil is taken away, the plants may be put into the same-sized pots as they were in before; but if very vigorous, pots a size larger may be preferable.

ARUM LILIES AND VINES UNSATISFACTORY (*F. H.*).—Arum Lilies have in some districts at least become liable to a disease such as that detailed by you. It is apparently of fungoid origin, but how it originates seems to be somewhat obscure. Successful results have been obtained by giving the plants a thorough ripening during the summer for about a month. They may at that time be laid on their sides outdoors. Then, towards the end of July, shake the tubers clear of the old soil and go over them carefully before repotting. This will give a chance to remove any decaying portions, and where cut away some dried sulphur must be rubbed on the wound. The potting soil should consist mainly of fibrous loam, and, if possible, obtained from a different source. No manure should be used till the pots are well furnished with roots. All decayed portions of the tubers that are cut off should be burnt. With regard to the Vines, it would be more satisfactory to obtain the advice of a good Grape-grower in the neighbourhood, as personal inspection is a very great help in such cases. There is, however, no chance of your Vines improving unless the border is remade, as no doubt the roots have got into the heavy, cold subsoil. Whether you do the work at once or in two parts, as you suggest, will to a great extent depend upon the conditions of labour, which is just now very scarce.

MISCELLANEOUS.

SOIL FOR EXAMINATION (*W. D.*).—All the samples of soil sent show you are in need of lime, and it should be added, if chalk or ground limestone is used, at the rate of a bushel to the square rod; if quicklime is used (but it will not be so suitable for your soil), add it at the rate of half a bushel to the square rod. Wakeley's Hop Manure is excellent, and it will provide the organic matter useful for the improvement of the texture of the soil you send. Decaying vegetable refuse of all kinds may be used and will take the place of the stable manure you are lacking, but, of course, diseased plants should not be allowed to find their way into the soil.

THE VALUE OF DECAYED MANURE.—Why is it that decayed manure is generally recommended in books and gardening papers to be used for the growth of garden crops in preference to fresh manure? I should have thought that fresh manure contained far more nourishment than that which is decayed, because by the time manure has become decayed nearly all the nourishment must have gone out of it.—EGDON. [This is a very pertinent and interesting question. The answer is that decomposition of such manures before adding them to the soil will render the parts more soluble and in a better state for being readily absorbed by plants. The liquid products of such manures should be preserved and added from time to time to the soil. Poultry-manure would be excellent for the purpose you state. Mix with an equal quantity of sifted garden soil and apply at the end of March, raking it into the soil and afterwards well rolling it in.—ED.]

OBITUARY

GEORGE SCHNEIDER.

GEORGE SCHNEIDER is dead! The words will be repeated with grief and consternation by many of his old friends and acquaintances, both British and foreign. In spite of his name, George Schneider was a Frenchman of old Alsatian stock, and the outcome of his love for his young fellow-countrymen was the foundation of the Société Française d'Horticulture de Londres. Many of our readers have been the witness of its success and have participated in some of those brilliant annual gatherings at the Café Royal, when men of the highest position in the horticultural world have considered it an honour to preside.

Mr. Schneider was born in Paris on March 29, 1848, and was therefore in his sixty-ninth year when he passed peacefully away at his residence,

THE LATE MR. GEORGE SCHNEIDER.

3, Meredyth Road, Barnes, S.W., after a brief and unexpected illness. He served his apprenticeship and worked in several establishments in France before he decided to try his fortune in England, where he arrived in January, 1870. His first place was at Messrs. John Laing and Co.'s at Forest Hill; but when the Franco-German War broke out, young Schneider returned to France and enlisted as a volunteer in a marching regiment. He fought in the army of the Loire under General Chanzy, was taken prisoner by the enemy, but escaped. He joined up again, and went through the campaign to the end. When peace was proclaimed, George Schneider returned to England. For a short time he was employed by Messrs. Hugh Low and Co. of Clapton; then in 1872, before he had attained his twenty-fourth birthday, he was engaged by Messrs. James Veitch and Sons at Chelsea, where he remained for thirty years.

He died on the 2nd inst., and the mortal remains of our good friend were laid to rest in East Sheen Cemetery on the following Friday.

At the graveside we noticed two of his daughters, Mrs. Hiehle and Mrs. Peavot, with their husbands, the other daughter, Mme. Ripard, and her husband being in France. Among old personal friends were Messrs. John Heal, V.M.H., David Ingamells, Thomas Bevan, Harman Payne, John McKerchar, Otto Hiehle, Tivey and Binot. The French Horticultural Society of London, of which he was the president since its foundation, was represented by Messrs. Guilloud, J. Bintner, Meilli and Wuyts.

The floral tributes, several of which were by the well-known florist Mr. R. F. Felton of Hanover Square, comprised a very striking one from the society, with its bold, broad band of tricolour ribbon, and others from some of the friends above named. Sir Harry Veitch, Mr. Edward Sherwood (Messrs. Hurst and Sons), Mr. R. Peter Barr, the widow (who was too unwell to be present) and other friends also sent wreaths. There were no speeches at the graveside, as is usual at French interments.

As we turned from the grave with sadness in our hearts, we felt we had lost a friend whom it would be difficult to replace. Mr. George Schneider was a husband faithful and true, a devoted parent, a loyal friend, a genial and sympathetic companion, a man the like of whom we may never meet again. His memory will long remain in the hearts of many English and French friends who have received nothing but kind consideration from him, and the name of George Schneider deserves to be written in letters of gold in the annals of international horticulture.

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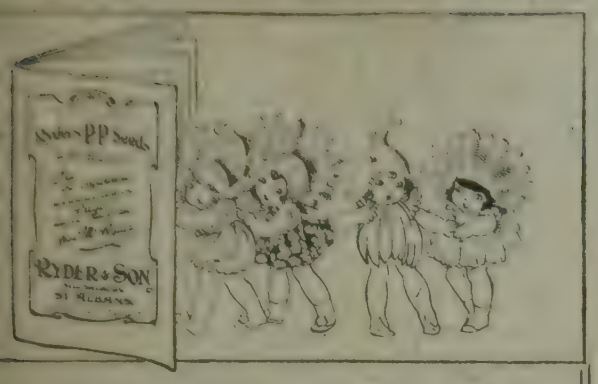

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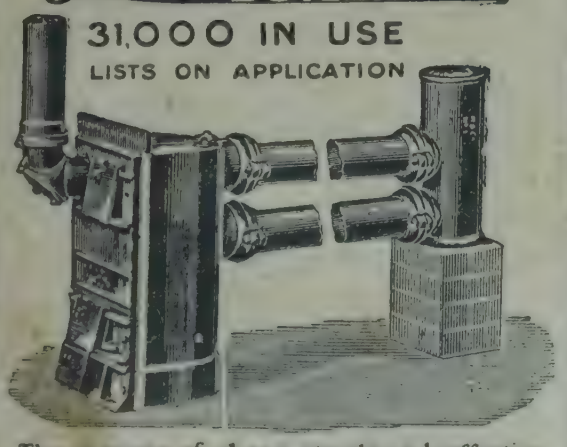

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ORCHARD AND WOODLAND

VOL. LXXXI.—No. 2357. SATURDAY, JANUARY 20, 1917.

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THE GARDEN.

No. 2357.—Vol. LXXXI. January 20, 1917.

NOTES OF THE WEEK

IT is to be sincerely hoped that the action of the Government in fixing the prices of Potatoes will not have the effect of diminishing the quantity placed under cultivation. Some farmers say it will not pay them to grow Potatoes at £6 per ton; others say it will allow a small margin of profit—which is all they require—if the season is normal. The small grower asks: "Will it pay to grow Potatoes on a vacant plot of ground with the prospects of getting a poor crop, when I can go to a shop and buy them at a penny a pound?" Obviously it is the duty of all growers, both large and small, to grow all they possibly can; otherwise we may find ourselves in the ludicrous position of low quotations and no supply. Even if we all put down the maximum land to Potatoes, there will not be more than enough to go round.

Potatoes at Maryport Market.—Potato prices were the cause of a riot at Maryport Market last Saturday afternoon, where, according to the daily Press, crowds of women assembled and declared they would not pay more than 1s. per stone, which was "the legal price" fixed by Government. The sellers stood out for 2s. and 1s. 10d., and a riot resulted. The women surged round and tried to storm and capture the carts. Some of the farmers decided to take their produce home and got away with lightened loads; others, under the protection of the police, sold out at 1s. per stone.

An Appreciation of the Buckingham Palace Geranium-beds. The following passage appears in the *Florists' Exchange* in an account of the Geranium-growing business in America: "Favourites of the poorest people, who cling to their Geraniums and tend them with affectionate solicitude, they are equally beloved and honoured by the rich and great. It is a fact that the late King Edward VII. would have nothing but the scarlet Geranium Paul Crampel in the great lozenge-shaped beds circling the south front of Buckingham Palace, London, and we always admired him for it. The effect, in contrast with the green lawns, was resplendent."

The Gardeners' Royal Benevolent Institution.—The seventy-seventh annual general meeting of this institution will be held at Simpson's, 101, Strand, London, on January 23 at 2.45 p.m. There are sixty-four candidates, of whom it is proposed to elect eighteen. The difference in these figures speaks for itself, and indicates that increased support is required to enable the institution to carry on its work of untold good in relieving the necessitous cases that constantly arise among gardeners and gardeners' widows.

WAX-LIKE FLOWERS OF ZENOBIA (ANDROMEDA) SPECIOSA.

Chelsea and Holland House Shows Abandoned. After careful consideration and great anxiety the Council of the Royal Horticultural Society have decided to abandon these two large shows for this year. Added to the trouble arising from the shortage of labour, the difficulties of transport, and the Government's desire to reduce travelling, the contractor has, at the last moment, reported that he cannot guarantee to put up the tents. In arriving at their decision, the Council hope they will have the support and approval of every Fellow of the society. In the place of these two shows ordinary fortnightly meetings will be held at the London Scottish Drill Hall, Buckingham Gate, on the usual fortnightly dates, namely, May 22 and July 3.

Scottish Horticultural Association Exhibitions and Sales.—An interesting and important announcement is made by the Council of the Scottish Horticultural Association. This is that they have decided, in view of the impossibility of holding their Chrysanthemum Show in 1917, to have four small exhibitions of flowers, fruit and vegetables during the year, in connection, as far as po sible, with the monthly meetings in May, July, August and November. It is proposed to have sales of garden produce at these meetings for the association's fund for fruit and vegetables for the men of the Fleet. With the consent of the exhibitors, the produce sent in for exhibition will also be disposed of for the same object.

Zenobia speciosa.—This is one of the most beautiful subjects of the large class of hardy flowering shrubs broadly known as Andromeda. It produces handsome spikes, fully set with ivory white, bell-shaped flowers of solid texture. A peat-loving shrub of modest growth, it accords pleasantly with wild Heaths and Whortleberry. It blooms naturally in June and July, but it is a great favourite for forcing into bloom early in the year.

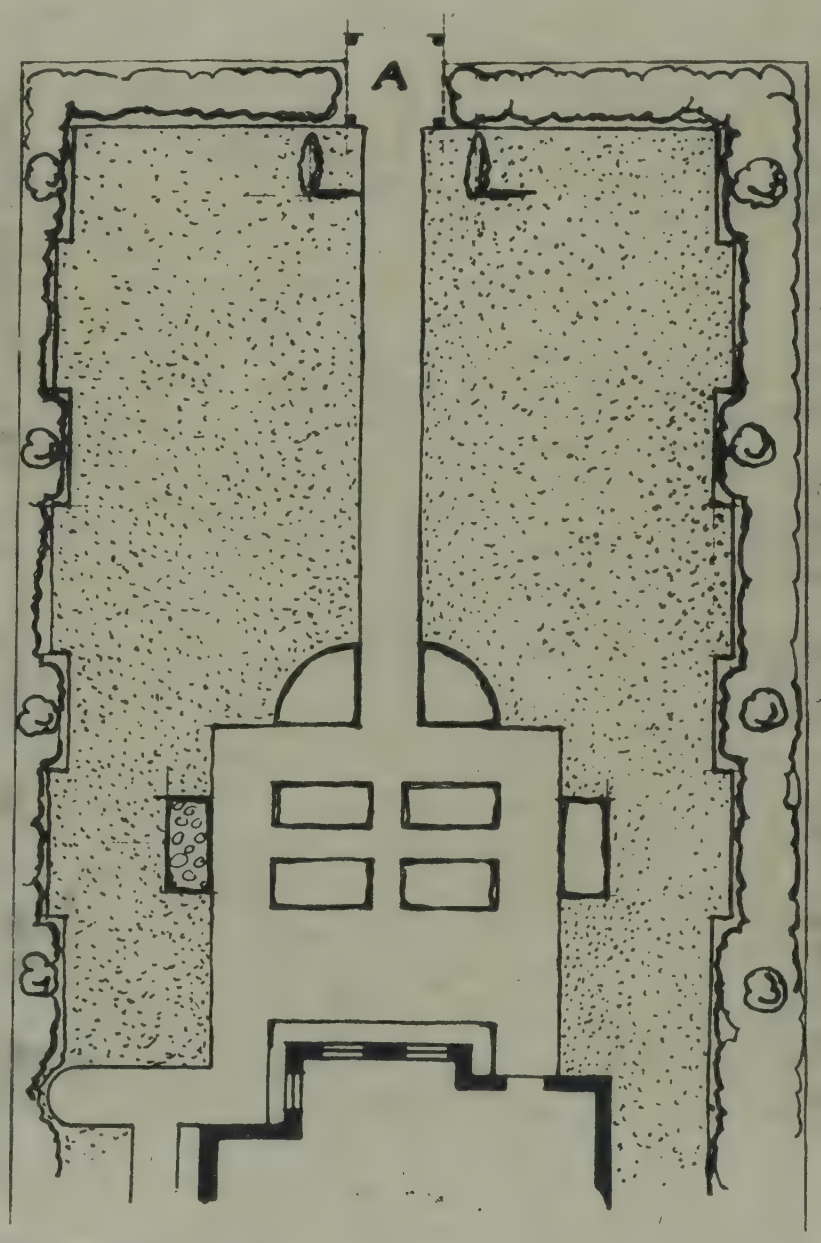
*** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Desfontainea spinosa.—It is somewhat misleading to describe this as "an attractive little bush" (page 11, issue January 13). Under favourable conditions it grows to a large size. About eight years ago I measured a fine specimen in Colonel Campbell's grounds at Stonefield, on Loch Fyne. It was 113 feet in circumference and 13 feet high. One side of it had to be shorn back to clear a gravel path. There is also a very fine bush in Mr. Carrick Buchanan's garden at Corsewall, near Stranraer, which I have not measured. Desfontainea thrives best in moist but well-drained soil, is grateful for an admixture of peat and sand, but cannot do with lime.—HERBERT MAXWELL, *Monreith.*

Planning a Rose Garden.—I am surprised you should illustrate a garden plan so utterly wanting in character as that shown on page 9 of your issue of January 6. The plan as a model exhibits all the particular vices of suburban planning: (1) The usual meaningless pergola connected to the house by a formless path and apparently joining up to another pergola in the distance—not even central with any point in the house. (2) Rose beds of quite unconnected design and with no relation to the house. (3) Some odd trees, apparently of the conifer type, growing aimlessly out of the lawn. I suggest another alternative—putting the Rose beds in a patterning near the house, and leaving pleasant areas of lawn on either side of a central path. Pergolas in a small space like this are, I should think, quite out of the question and much to be deprecated. If some kind of treillage is required by the ardent grower of Roses for rambler types, the only legitimate place would be on either side, forming a pleasant boundary screen. Surely the best place for an arbour would be at A, defining the entrance to the vegetable garden, and a pleasant central object. Irresponsible planning of suburban gardens such as you illustrate gives collectively an untidy and formless appearance to a neighbourhood. This is why I think it worth while to protest against such types being held up as a model.—P. MORLEY HORDER.



AN ALTERNATIVE PLAN FOR A SMALL ROSE GARDEN

Blackbird Building in the Hole of a Tree.—"Anne Amateur's" experience *re* above is not unique. Some six years ago a blackbird built and laid three eggs in a nest in a hole in an Oak tree on the roadside between the garden and my dwelling-house. Unfortunately, an enemy, whether human or feline I cannot say, only too successfully turned her out before the young were hatched. Later, however, in the same season another nest was built in the same hole, but, alas! one day a disturbed nest and feathers of a blackbird scattered all around showed that once more an enemy had invaded the home. In the summer of 1915 yet another pair of blackbirds made this Oak tree their nesting-place, and with more success on that occasion. I do not think that these latter birds could have been descendants of the former ones which built in the Oak tree six years ago. The instinct which leads bees when swarming to alight on the same tree or shrub from year to year seems to me to account for birds selecting the same spot for their nest from season to season. I should add that the blackbird could easily see out from her nest in the hole in the Oak tree, but the starling has no objection to getting into a quite dark recess.—GEORGE JOHNSTON, *Ashfield Lodge.*

Dianthus Allwoodii.—I note the article on page 17 in THE GARDEN of January 13 on what is described as a "new race" of Pinks, Dianthus Allwoodii. May I ask in what way these pretty hybrids are new? For the past ten years we have been working on these garden Pink × species, species × garden Pink, and species × species. For the last five years they have appeared at the Royal Horticultural Society's shows, and in that time at least twenty varieties have been put on the market with a range of colour hitherto unknown, viz., vieux rose, crimson, tawny red, apple-blossom pink, purple, cerise, maroon, &c., the shortest being Victoria (height 4 inches) and the tallest, Jasper (4 feet), the latter a wonderful rose heliotrope self ten years ago. Captain Hill-Poë of Riverston, Tipperary, produced the first variety I ever saw, viz., Rubican, 12 inches high, with self-supporting stems, sweet Clove scent, and of a wonderful tawny red colour. Personally, I dislike newspaper disputes, but I consider that Messrs. Allwood have no right to the claim that they first introduced these hybrids. As a matter of fact, we sent our first out eight years ago, before the above firm in question grew Pinks, and we have never placed them before the Royal Horticultural Society's committee as our own inventions, for to our certain knowledge there were at least three varieties in commerce ten years ago before we took up the work of hybridising the species. I consider Captain Hill-Poë of Riverston was the pioneer of this work, and we only took up the threads where he left off. It is rather curious to see someone claiming the honour in 1917.—J. DOUGLAS.

Mock Gooseberries, &c.—Last year I learnt that Apple thinnings, still far from full size, can be stewed whole and unpeeled. To-day I tried Apples about the size of marbles, and discovered that when cooked they bear a surprising resemblance to Gooseberries. This is of value; I have no Gooseberries (they are said to be fetching 13s. per bushel owing to enormous War Office jam contracts), but have acres of juvenile Apple trees from which fruit must be picked if time permits. Of course, having partaken liberally of mock Gooseberries, a friend arrived bringing the genuine article, also information that it is an economy not to add sugar to cooking fruit until it is nearly done. This was news to me, and may even be so to more expert cooks who are bewailing the present sugar shortage. There are always culinary facts to be gleaned in a new place. Apricots are abundant in Tasmania. What *some* English Apricot jam is made of, perhaps we had better not enquire; but it may be a useful hint to housewives if I just mention "Try Carrots." Most cookery books fall far short in complete information; indeed, is there any one which says you need not go to the trouble of peeling and coring Quinces for jam? Just cut them up, disintegrate the peel and cores, and the pips can be skimmed off. Quinces are great favourites in Tasmania, and ought to be much more so in England. Last year they were the most profitable of tree fruits in Tasmania, fetching 1½d. per lb. at the jam factories; a heavy crop, produced with next to no labour. The boom in small fruits has come after some growers had grubbed up their Raspberries and Gooseberries. Their picking is a difficulty in this colony, and prices have been very low for years. Strangely enough, the few people I have asked seem unacquainted with Victoria Plums. Coe's Golden Drop is a favourite, also the Green Gage (probably not the genuine old Green Gage), though it is an uncertain bearer. So-called Kentish Cherries are much talked of, being planted in damp situations and very much left to take care of themselves. I have a few assorted Japanese Plums; they bore only sufficiently last season to tantalise me with their delicious flavour, but are now carrying an immature crop. French Crab is a favourite Tasmanian Apple, but was little known to me in England. Australia rejoices in "pundits" (the late Mr. Gumbleton's favourite expression) who delight in altering fruit names, but their labours are mostly ignored by the growers. The fame of Mr. Luther Burbank has spread very little here. The inroads of Prickly Pear have worked incalculable harm in Queensland, millions of acres being now covered. From what I hear, stock devour it, despite the spines, but their efforts

have little effect; so there would not appear to be much demand for the Wizard's spineless varieties, the like being known at Kew long before the pushful Californian was heard of. Hard Canadian Wonder and other Beans, a standard food in North America, are more in evidence in Tasmania than in England, and I would cordially recommend them to food economists. Corned mutton is an Australian speciality new to me, and there is an excellent custom of making one's own Tomato sauce with the aid of "essence" (the hot ingredients), sold in bottles by chemists. An annoying thing about Tasmania is that there is so little appreciation of cider. But ships' stewards on the voyage out were full of anxiety to land on the little island, as for 3d. you can get a very large glass of good beer!—ARTHUR GARNETT, *Cambridge, Tasmania.*

The Fate of the South Border.—The big south border, backed by a well-clothed, high wall, is the glory of the garden in the late summer. But for this year its pride is to have an honourable fall, for it is to be given to Potatoes. Its deep, well-worked soil should do well for such a crop without extra manure, and we hope for a heavy harvest of some good late kind. The border is something like 200 feet long by 14 feet wide, so that it contains a good many rods of useful ground. Only the clumps of Yuccas that occur on raised mounds where there is a cross path, and at the ends, will be saved, and a middle clump of Tritomas. It is hard to give it up, and yet one gives it gladly. The two sentiments are nearly evenly balanced, but the scale is weighed down by the satisfaction of making the ground serve the much wanted purpose. One hopes that the sacrifice may be for one year only, but if more is needed the need shall be satisfied.—G. JEKYLL.

A Record of Indoor Carnation Blooms.—Last January you were good enough to print my year's record of Perpetual-flowering Carnations, and it has occurred to me that your readers may be interested to compare the number of flowers cut in each month of the years 1915 and 1916. It will be seen that the total score varies but slightly, although the aggregate for 1916 shows a small increase by way of encouragement. During the past year I had the misfortune to lose my excellent gardener, who is now graduating in the higher walk (from the patriotic point of view) of the R.F.A.; but although I had to replace this skilled grower with an older man who had not touched Perpetuals before, the plants so far show no signs of deterioration. The Carnations occupy one small house 25 feet by 12 feet in dimensions, and it may be mentioned as one of the many points of excellence of these desirable flowers that, although I have not spent a single penny upon new stock during the whole twelve months, the blossoms have been larger and in every respect more satisfactory than those of earlier years. In my humble opinion there is no flower grown under glass which better repays attention, in that the blossoming never fails, and even in the lean months, November to February, a small harvest of gracious blooms can still be gleaned when cut flowers are few and far between. The following is the record:

	1915.	1916.
January	55	80
February	86	87
March	112	95
April	112	120
May	225	199
June	350	244
July	281	430
August	239	411
September	245	176
October	175	130
November	70	89
December	62	46
	2,012	2,107

—REGINALD HUDSON, *Stratford-on-Avon.*

Onion Sets.—This is perhaps the principal vegetable novelty of recent times, and there are every signs of an increased use of this easy and convenient method of Onion cultivation. Onion sets are really miniature Onions—perfect in every way, but smaller even than the tiny silver-skinned pickling Onion. It seems that California supplies most of the little bulbs sold in our country, though, while they mature best in a climate which enjoys warm, dry autumns, they may be raised here if ordinary care is taken. To produce Onion sets the seed is sown in a light soil at the end of June. Almost any quick-maturing variety will do, and the seed should be just lightly covered. As comparatively little leafage is made so late in the season, the rows need not be more than a foot apart, which distance permits the convenient use of a 9-inch Dutch hoe. If the weather is dry at the time of sowing, the drills should first be watered to induce quick germination. No thinning should be required, and as the hot weather encourages precocious bulbing, the crop will begin to ripen by the middle of August. As these pigmy bulbs must remain dormant until mid-spring, it is necessary to take even more care in ripening the crop than with the ordinary bulbs. When lifted, they may well be laid thinly in boxes to be dried in the sun. The advantages attendant on the use of Onion sets instead of seed are freedom from the ravages of the Onion fly, easiness and regularity of planting, no thinning, and the ground may be kept free from weeds much easier. On the other hand, it is asserted that the crop so grown is not so heavy as that obtained by the old-style methods. This may frequently be traced to error in allowing too great a distance between the sets. But, even if correct, against this should be placed a greatly reduced cost of production, because the labour is very much less and very little manure is required. [We have no desire to appraise large Onions, but one of the finest beds we have seen was grown from Onion sets. The bulbs were exceptionally heavy.—ED.] The method of cultivation is much the same as that followed with Shallots. The bulbs may be planted at any time when the conditions are suitable between the beginning of February and the end of April, though the former is the best month, as the crop may then be harvested early and the ground used for other purposes. The sets are simply pushed into the ground 1½ inches to 2 inches deep, 4 inches to 6 inches apart, allowing a distance of 15 inches between the rows. A rich soil is not advisable, as this would tend to encourage flowering, whereas the grower's object is to induce the bulblet to continue its arrested development, and for this reason there should be no stimulants given, though in the case of very poor soils a moderate proportion of well-decayed manure should be incorporated in the soil when making preparations for planting.—CECIL BARTLETT.

THE GREY END OF THE LONG SOUTH BORDER AT MUNSTEAD WOOD.
This year it will be used for Potatoes.

ACCORDING TO PARKINSON

By S. Hope Evans.

WHEN it was decreed by the Lord of the Manor that the old walled garden should hold only those flowers mentioned in Parkinson's "Earthly Paradise," certain difficulties presented themselves. To begin with, no one wished to destroy the grass plots on either side of the central flagged path; therefore it was not possible to set the flowers as Parkinson would have arranged them. He would have placed them in "knots and trayles," beds of elaborate formal design bordered by "Boordes, Lead, Tyles, or Bones," or else by green herbs whose clippings could be used as strewings for the house, such as Thrift, Germander, Hyssop, Marjoram, Thyme, Lavender Cotton, or Box. As a compromise the grass plots were trimmed with rounded welts of Box about a foot high, and toadstools of clipped Box were set in these small lawns for pixies to perch on. The standards bordering the path were also retained, for, though the Roses were modern varieties, the form was one well loved in Tudor and Stuart times, the wild true English Briar making the best of stocks.

At the top of the grass plots, "set by themselves in the middle of long beds," as Parkinson advised, were the Roses that he knew. "Those most ancient Standards in England, the White Rose, the Red, and the Damaske," were there, together with Moss and Provence Roses and the York and Lancaster Rose. In front of them were miniature Bourbon Roses and the little Rose de Meaux, whose neat foliage and demure flowerets look as though cut from tinted paper.

The corresponding beds at the other end of the lawns were filled in the spring with Stocks; "Stocke Gilloflowers of divers colours, as well the double as the single, they are as common as Wallflowers in every woman's garden." In the summer their place was taken by annual Larkspurs.

Parkinson speaks as if all Larkspurs were annual, yet when he describes upright-bearing "Larksheeles," the height of a man, the tops of the stalks stored with flowers, white, pale blush, ash coloured, purple or violet, the picture suggests something very like a Kelway Delphinium. Anyhow, it was made an excuse for slipping some into the wide border under the high old walls; walls that had survived many changes and fashions among flowers and people.

The garden was sunken beneath the terrace and lay open and unscreened in constant view. Every gardener knows that to keep such a place always gay and neat is as difficult as it is for a woman always to produce a smile and a smart frock. The method adopted was to endeavour to have bloom alternately on one side or the other. Early Daffodils on the right opened the game, and Wallflowers on the left made the next move. Later, the right hand challenged with Pæonies, Lupines and Columbines, and the reply came in Sweet Williams and Snapdragons. The right-hand bed held chiefly herbaceous plants, with the gaps filled by Love-in-a-Mist, French Marigolds, Greek Valerian, and Lungwort, which last West Country folk call "Faith, Hope and Charity." By the wall on the left were clumps of Hollyhock, yellow Foxgloves, Peach-leaved Bellflowers, white and blue, and Steeple Bellflowers.

In the corner at the foot of the garden, purple Lady's Bower (Clematis) climbed to meet a Rose that stole over from the other side of the wall. Starworts were grouped below it. The little gate leading to the orchard was guarded by Myrtles; near them were Guelder Roses and Dwarf Bay (Daphne Mezereum). Low Rosemary hedges were used to break the long beds, one bush of Rosemary having been grown from a slip that was brought from Anne Hathaway's cottage at Shotover.

Under the terrace the border was divided into small squares, edged with Box. Here low-growing flowers gave an informal effect of carpeting; the plants were, as far as possible, of old-fashioned varieties. There flourished Hen-and-Chicken Daisies, "Beare's Eares" (Auriculas), Jack-in-the-Green and other Primroses, Balsams, Pansies, and many sweet and modest flowers; also the Flower of Bristowe in flaming scarlet, by some called the Campion of Constantinople.

It is very difficult to get real old-fashioned varieties of flowers; Clove Carnations, for example. Many did we buy called by this name; handsome flowers, good of growth, but lacking the rich, satisfying scent of the true Clove Gilliflower. At last a friend gave us some from an old rectory garden; rather untidy flowers, but big and very sweet, with curly, pale green grass. Again, in the case of Musk to put in a leaden box filling an old recess in the wall. Very pretty flowers, very delicate foliage, but little or no scent; not the sticky-leaved plant with heavy, cloying perfume which I remember when as a child I visited an old great-aunt who was a notable gardener. Poppies were another failure. I wanted the double ones pictured in the "Paradisus," red, white and murrey-coloured. I could not get them.

OLD WALLED GARDEN AT NAILSEA COURT, SOMERSET, PLANTED WITH FLOWERS WHOSE NAMES ARE GIVEN IN PARKINSON'S "EARTHLY PARADISE."

Many interesting flowers have gone for ever, and we must experience loss from this, even though their place has been taken by modern varieties richer in hue and more prolific in blossom. The process of substitution evidently was carried on in Parkinson's time, for he speaks of gentlewomen who experimented in grafts of Provence Roses on Damaske stock; while of Carnations he says: "Those that were known and enjoyed in former times with much acceptation are now for the most part less accounted of; for now there are so many other varieties of later invention." The Carnation was to him the Queen and Delight of flowers; it is surprising to find how many varieties he describes. Next to this he loved Lilies and Daffodils; of Daffodils he knew more than a hundred sorts. Tulips and Hyacinths, Windflowers and Cowslips, filled his knots in spring, and very charming they must have been; he had a wide range of colouring in these, and also used Crowfoot or Ranunculus.

For the summer there were Lilies, beginning in May with the Crown Imperial; and following on were Martagons of many colours; gold and red Lilies; also white Lilies, the ordinary and that of Constantinople. Flower-de-Luce (Iris) was another favourite; Turkey, Portugal, Dalmatia and Asia each supplied different kinds. The New World of the West contributed several treasures, among them Indian Cress (Nasturtium) and Tobacco Plants.

Plants from every land appear in the pages of Parkinson's "Earthly Paradise," bearing witness to the zeal and energy of the root-gatherers.

Those who would garden upon his lines will not find themselves unduly restricted; they will possess a great number of fair and interesting flowers with which to dress their beds. It is true that Chrysanthemums must not come into such a garden, nor stately Phlox, nor the sensuous beauty of Begonias, nor the gentle usefulness of China Asters. Neither can there enter Geraniums, Lobelias and Calceolarias, beloved of bedding gardeners. Yet enough remains to yield a good store of loveliness, and a long list of satisfying delights awaits those who garden according to Parkinson.

TWO WINTER-FLOWERING LONICERAS

A WARM welcome is invariably extended to our hardy friends which give us of their beauty during the dull days of winter. In the case of Lonicera fragrantissima the welcome is more than deserved, for, as its name indicates, it is charmingly fragrant. Even during January's most inclement weather conditions it never forgets its sweetening mission. If a few shoots can be spared for use in the living-room, it gives to the air a delightful "tone." The colour of the flowers may be described as creamy white. The plant should have for preference the support of a wall, and one in almost any aspect will do. Although not a climber in the recognised sense of the word, it will in time cover a space of wall from 6 feet to 10 feet.

The second species is L. Standishii, and this has pinkish white flowers. Although perhaps its fragrance is not so pronounced as that of the former species, it is certainly sweetly scented, and always arrests attention either growing outside or used in a cut state indoors. It succeeds equally well as a shrub in the open or as a wall plant. Any good garden soil will grow each of these Honeysuckles. H. TURNER.

NOTES FROM THE RIVIERA

ON THE BEHAVIOUR AND ENDURANCE OF FLOWERING PLANTS

BY EDWARD H. WOODALL.

Eriocephalus capensis.—Bad weather has prevailed during the greater part of the month of December on the Riviera, as elsewhere, and flowers are scarcer than usual in consequence; but directly the clouds pass and the sun reappears, the brilliant and well-washed atmosphere casts a glamour even over decayed Roses and sodden vegetation. Drought-loving plants seem the most resistant just now, and no flowering shrub is brighter and prettier than Eriocephalus capensis. Its long sprays of purple-centred, Daisy-like blooms have endured the deluges and gales most bravely. It has several charms, for its Southernwood-like leaves are very aromatic; and the pretty sprays of flower turn by degrees into the balls of silvery fluff which give it the name of "Woolly Head" or Eriocephalus. The white Eupatorium Weinmannianum, which thrives so well in Ireland, also proves itself fairly waterproof, as might be expected; but the pleasant surprise has been the Hellebores or Christmas Roses, which have really enjoyed themselves, and for the first time have given a harvest of fat white flowers and buds on stems of (to me) unexampled length. Very different is the fate of the poor Poinsettias, which were so promising in their half-developed scarlet bracts, when the cold storms of rain and hail descended, to the accompaniment of thunderclaps and squalls! Only those heads that were cut and put under cover remain to tell the tale of what might have been, had the weather held up till the New Year as it usually does. It is a tribute to the hardiness of a well-established tuft of Lælia anceps which seems to have settled itself happily in the fork of an old Olive tree, that the flower-spikes, though delayed, no doubt, by the cold and sunless atmosphere that prevailed for a fortnight, seem quite unharmed, and, with the fine weather in January that the peasants predict, will eventually perfect their blooms under conditions one would have thought too unfavourable for most flowers. Of all the creepers, the only one that retains a fair amount of bright bloom is Bignonia venusta, which stands out again as the most cheerful and resistant of all winter flowers. The Bougainvillea bracts have been found in drifts, whisked away to distant corners by the eddies, with hardly a solitary bract left to grace the parent bush. The hardy Chimonanthus bloom has suffered most unexpectedly and turned transparent or even black; but the fragrant Freylinia cestroides is as fresh and as powerfully scented as ever. Why will it not condescend to flower further North? It must, I think, like Eriocephalus capensis, demand more summer heat and drought than England's shores can provide, unless it be that it needs the November sun of these shores to perfect its numerous flower-buds.

HELLEBORE OR CHRISTMAS ROSE.

The pleasant surprise of winter flowers

Linum trigynum is one of the few flowering shrubs that has really thriven under the wet gales so unusual on this coast. I never before saw it in finer flower, and if one flower gets dashed there are two more to take its place. Surely it should be more grown in English greenhouses than it has been, for it prefers shade and moisture to sun and drought, though it will put up with either, while it clearly shows which it prefers. Red spider is, no doubt, a serious enemy to it under glass but out of doors it never seems to suffer from that pest; so that plenty of moisture and air in summer should prevent that annoying insect. The closely allied Linum or Reinwardtia tetragyna is a curiously ineffective plant; at least, in this climate it neither grows nor flowers with the same freedom, and its flowers are much smaller; so, except for the sake of its little stain of colour at the base of the petals, it is not worth its room.

BOOKS

MISS JEKYLL'S NEW BOOK.*

I THINK Miss Jekyll's new book on "Annuals and Biennials" is just the one for the present, when so many people, owing to naval and military exigencies, are forced willy-nilly to be for the time what may be called "cuckoo gardeners." To all such her remark at the bottom of page 3 is very apposite: "Annuals are of special use in the case of a garden occupied on a short tenancy." Might I add in addition that the cost of the necessary seed, if got from such a firm as Thompson and Morgan of Ipswich, or any other which puts up small-priced packets, is not ruinous; that seed packs away in a small compass, and that sufficient for the largest garden in England can be sent by parcel post, thereby, compared with plants, saving labour in transit; and, lastly, that if a good selection (for which go to Miss Jekyll) is made, gation we can, and do, do the same when we turn biennials and perennials into annuals. The A B C of the operations of sowing is clearly and exhaustively given by Mr. E. H. Jenkins in Chapter II. Thus the volume is brought within the compass of the most inexperienced gardener; and doubtless there are many who, now that the gardener is away, have to do a good deal of work themselves from which heretofore they were exempt. In this respect, too, the publication is opportune. JOSEPH JACOB.

THE WHITE PINE BLISTER RUST

BULLETIN No. 2 of the State Board of Agriculture for the Commonwealth of Massachusetts, dealing with this disease in America, has been forwarded to us by Mr. T. N. Cook, and we direct attention to it as it is a European disease which appeared in the United States as recently as 1906. It is known here as Weymouth Pine rust, and is some-

ANNUALS IN THE FLOWER GARDEN. FROM "ANNUALS AND BIENNIALS."

there will be for more than one buyer the charm of novelty; or it may be for others the revival of the memory of a long-quitted garden which we knew as home. In my own case, two flowers which invariably bring to mind the days of my childhood are the old blue Nemophila insignis and the rather insignificant Virginian Stock; just as among bedding plants it is the rich orange, sun-loving Gazanias, which are now so seldom met with in twentieth century parterres or gardens.

Wartime is the opportunity of the annual—natural or artificial—for not alone by grafting or by the "doctrine of insitions," as old Sir Thomas Browne, the famous gardener of Norwich, put it, can we "alter plants' tempers"; but by using modern knowledge and modern methods of propa-

times met with under the scientific name of Cronartium ribicolum and at other times as Peridermium Strobi. Although it may occur on any of the five-leaved Pines, it is most common on Pinus Strobus, and in some quarters causes a good deal of injury to that tree. Different stages of its life-history are passed on widely different trees, for, while one stage occurs on the Pine, another is passed on the Black Currant and perhaps other kinds of Ribes, the occasional transference of spores from one host to the other being necessary for the well-being of the fungus. Where considerable plantations of Weymouth Pines exist, therefore, it is not wise to encourage even single bushes of Black Currants or other Ribes in the near vicinity. Pines attacked by the disease are noticeable by the swelling of the bark and the subsequent appearance of yellow, spore-bearing bodies

* "Annuals and Biennials," by Miss Jekyll. Published at the Offices of THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.; price 7s. 6d. net

A COLUMN FOR THE CURIOUS

IN reading THE GARDEN for December 9 last I was much interested in the article by the Rev. Joseph Jacob entitled "For the Consideration of the Curious," wherein he quotes the lines "So come all jovial gardeners," &c. I may say that when the Gooseberry shows or, as they used to be called, "Fayberry shows" were held at Rochdale, Middleton, Milnrow, Smallbridge and Walsden, it was not considered a successful show unless, after the weighing had taken place, a good feed of the popular Lancashire "Potato pie" was had, washed down with some good home-brewed ale. Then the "Gooseberry Growers' Song" was sung, of which the lines referred to were the chorus, and I am sure the man who could learn it in one night would require a good memory. I may say that the song interested the gardeners just as much as "John Peel" or "Owd Towler" did the men who followed the hunt.—RACHDA.

A REPLY TO "HURSTCOT."—"Hurstcot" has, I regret to say, entirely missed the spirit and meaning of my suggestion about a column for the curious if what appeared on page 624 in the issue for December 30, 1916, about the Potato is his interpretation of what I wrote in THE GARDEN on page 593 in the issue for December 9. With all respect to "Hurstcot," it would do very well for a chapter of that rare little book "Arcana Hortensia" (1714), or it would make a passable Apocalypse, but it is not half matter-of-fact enough for the column I suggested. Taking the Potato, as "Hurstcot" has introduced it, the sort of questions I would like answered about it are such as these: (1) What are the pros and cons for the rival dates of the introduction of the Potato into Europe? (2) What are the date and facts about the recent Potato mania? (3) Which is the earliest picture of Solanum tuberosum in the old herbals or flower books? I would be greatly obliged if "Hurstcot" would answer these, or, to go back to my original article, tell me all about Stephen Blake, or the history, context and authorship of those curious lines:

"So come all jovial gardeners, let's merry, merry be,
We'll sing and dance, . . . but the London
is for me."

I do not somehow think they will be found in "a schoolgirl's scrapbook, causerie or other miscellanea." If they are to be found there, I would very much like the reference, for I am one of those who "crave something as to the true nature of things," which is only another way of saying I crave for knowledge.

"A CHESTNUT."—What is the origin of our talking about a well-worn tale or story (like the experiences of "Conscript No. 254") as a chestnut? I have got it in my "napper," as my quaint-tongued old gardener would have expressed it, that the expression has no connection either with the tree itself or with delicious roasted seeds that are all too seldom handed round at dessert, or with those French dainties *marrons glacées*. I have been told the expression came from Philadelphia, where in a street called Chestnut Street there was once a playhouse that became notorious for its somewhat stale and ancient productions. If this is so, it is a bit hard on both the tree and its fruit. Victims to circumstances, I suppose.—JOSEPH JACOB.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Onions.—Make a sowing of Ailsa Craig in boxes in a temperature of 55° to provide plants to give large bulbs for exhibition or home use. To obtain bulbs of 2lb. or more, a long season of growth is necessary. By sowing early the plants have a long season of steady, uninterrupted growth without subjecting them to too much heat to make up for loss of time in sowing the seed.

Leeks, to obtain blanched stems at least 15 inches long and some 3 inches in diameter, should be treated on similar lines to the Onions. Produce of this kind has no comparison with that obtained by sowing the seed in the open during March. Of all vegetables, none gives better returns for a long season of growth and careful attention than the Leek. Prizetaker is a desirable variety.

Cauliflowers wintered in frames for planting out in March should, when the weather is suitable, have full exposure to induce a sturdy growth. Endive and Lettuce ought to be subjected to similar treatment.

Potatoes for early planting should be set on end in shallow boxes (see issue January 13, page 12) in a light, cool site to induce sturdy sprouts to push from the tubers, which is all in favour of success when planting takes place. Early Queen, May Queen, Ringleader, Midlothian Early, Dunnottar Castle, Sir John Llewelyn, Sharpe's Express and Colonist are all suitable kinds for a variety of soils and situations.

Cabbages from autumn sowings have a variable appearance. In some districts the plants have suffered from excessive rains, and the continual sodden state of the ground has checked growth. Slugs have been very active; seize the first opportunity to loosen the soil about the plants, letting in the air and checking their ravages.

The Hardy Fruit Garden.

Raspberries.—Where an old plantation fails to give satisfactory results, a new one should be made. Newly trenched, well-manured soil should be chosen in a moist part of the garden, if possible; never plant new canes on an old site. Plant 1 foot apart in rows 4 feet wide, and cut down the canes to within a foot of the soil. The aim should be to induce vigorous growth with a view to obtaining a full crop of fruit the following year. Superlative and Pyne's Royal are good varieties.

Cuttings of Gooseberries, Red, White and Black Currants should be saved when pruning the trees and heeled in the soil until a favourable opportunity occurs to insert them properly. Shoots 10 inches long make suitable cuttings.

Fruit Under Glass.

Melons.—Sow seeds of varieties like Hero of Lockinge, Ringleader, Windsor Castle and Superlative to give fruits in May. Sow one seed in a 2½-inch pot and plunge in a brisk bottom-heat This is the best way to raise these early plants. If the soil is moist, no water will be required until germination of the seed has taken place. When the pots are nearly full of roots, transfer the plants to 4-inch pots and give them a position near the glass in a temperature of 70°.

E. MOLYNEUX
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

THE WELL-NAMED POTATO PROSPERITY.

FOR NORTHERN GARDENS.

Plants Under Glass.

Carnations.—The second batch of newly struck cuttings of Tree Carnations should now be potted off, using 3-inch pots for this purpose. Give the plants a fine compost to work in and place them in a fairly warm temperature, spraying occasionally till root action begins; then place them on a shelf as near to the glass as possible. See that they are free from red spider, and if this pest becomes troublesome, spray once or twice with a suitable insecticide. The Malmaison varieties should be picked over occasionally and any necessary tying done. Most Malmaisons are grown in a cool temperature, so are not quite so susceptible to rust and other diseases as the Perpetual-flowering type. It is generally admitted that too much coddling is against the successful growing of these plants.

Fruit Under Glass.

Vines.—Where there are perhaps no more than two vineries in the establishment, a very good time to close down the early one is about the middle of this month. Care must be taken to keep a nice regular temperature, gradually increasing it as the buds break. A great many differences of opinion arise regarding the temperature of early vineries; but err on the cool side rather than have it too hot. In excessive heat the consequences generally are weak wood and foliage that can ill resist the attacks of insect pests with which we are all more or less familiar. A watchful eye should be kept on any plants which may of necessity have to be started in the vinery, to see that they are quite free from any vermin, which might readily pollute the whole house.

Peaches.—The second Peach-house should now be closed, but, unless severe weather sets in, it is not advisable to have much fire-heat for the first few weeks. When a little artificial heat is admitted, syringing of the trees may be commenced; but a discreet judgment is necessary, as during dull weather it is quite sufficient to only damp the paths. When the sun-heat causes the temperature to rise to about 65°, air should be admitted; but care must be taken to shut down the house as soon as any falling of the mercury takes place.

Cucumbers.—A first sowing should now be made where the fruit is in demand for early use. A good plan is to sow singly in small pots and grow on in the stove. Afterwards they can be transferred to a suitable forcing-pit or a good hot frame. For this early crop we find none suits so well as Sutton's Improved Telegraph.

Tomatoes.—A sowing may now be made of a variety which will come on quickly for early use. Sow thinly in pans, and when showing the rough leaf prick off singly into small pots. After they recover and commence to grow, place them in cooler quarters near the glass so that a dwarf habit of growth may be ensured.

The Pleasure Grounds.

The Shrubbery.—After the heavy fall of snow experienced in this district, a great many coniferæ and other ornamental shrubs require a little assistance in the way of tying back into shape. This work should be attended to, as a great many plants never quite regain their shapely form after being subjected to a very heavy snowfall. Much of the trouble may be averted by going round the shrubbery with a long rake and dislodging the snow before it becomes frozen on the plants. When planting shrubs, consideration should be given to the berry-bearing sorts, especially those that carry their fruits over Christmas. None looks prettier against a groundwork of snow than Cotoneaster frigida and C. Franchetii. The latter is a most graceful sort, and differs considerably from the first named. Others should be selected for their autumn tints and their coloured bark, which brighten up the grounds in no small degree during the dull days of winter.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

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READERS who are on the look-out for a really first class maincrop Potato would do well to give Webb's Prosperity a trial. Its cooking and cropping qualities are exceptional. The tubers are round, with a thin skin that peels like tissue paper—always a sign of quality in a Potato. It is a robust grower and appears to be perfectly free from disease. This handsome and superior Potato was sent out three years ago by Messrs. Webb and Son, Stourbridge, and it has far exceeded the most sanguine expectations.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SWEET PEA MRS. D. DENHOLM FRASER (*J. F. H.*).—This Sweet Pea was raised and distributed some four or five years ago by Mr. W. J. Unwin, Sweet Pea Specialist, Histon, Cambs, from whom it most likely can be obtained. We did not publish a coloured plate of this variety on the date mentioned, but believe the variety to be a much brighter form of Mrs. W. J. Unwin, from which it sported.

ROSE GARDEN.

ROSE GENERAL SCHABLIKINE (*Maida Vale*).—This variety is Tea-scented, a vigorous grower, makes a very fine bush plant, and is one of the very hardiest of its section. It should certainly do well in Essex.

TREES AND SHRUBS.

YEW HEDGE TURNING BROWN (*Budds*).—It is not possible to say without examining the hedge in question what may be the cause of the leaves turning brown. We suggest, however, that an examination of the roots be made, and also that you ascertain whether there is any possibility of water standing in the ground about the roots. Leaves of Yews have been known to turn brown by the ground becoming waterlogged. If you find that the soil is unduly wet, try placing an agricultural drain along the hedge on the lower side, about 2 feet deep. If there is no good outlet handy for the drain, dig a deep pit and fill it with broken bricks for the drain to empty into. Should the roots of the hedge be decaying, remove some of the soil, cut away dead roots, and fill up with new, sweet soil.

THE GREENHOUSE.

NERINES FROM SEED (*Fife*).—Sow at once, using a compost of good sandy loam, and just properly cover the seed. Give good drainage. We grow ours in shallow pans, well drained, and in a temperature of 60° to 70°. The seeds germinate in a few weeks. Transplant as soon as large enough to handle while in the seedling stage. Keep growing on for two or three years unless they go naturally to rest the second year. Do not give artificial rest during that period.

MISCELLANEOUS.

USING LIME (*W. D.*).—It is getting late to use quicklime, but the proper amount is 1lb. to the square yard. Chalk may be used at any time at double that rate, and, except for destroying club-root, it is better than quicklime on light soils.

CARBIDE OF CALCIUM AS MANURE (*O. P. B.*).—Carbide of calcium refuse from the making of acetylene gas may be used with advantage for counteracting soil acidity, *i.e.*, for all purposes for which chalk or lime is used in the soil. It should be exposed to the weather for about three or four weeks after it is removed from the generators, and should then be spread on the soil at the rate of about a bushel to the square rod, *i.e.*, about 2lb. to the square yard.

VALUE OF PROPRIETARY MANURES (*Cliffe*).—Your best plan would be to ask the vendors for an analysis of the manure offered, and from the analysis given calculate the actual value of the manure offered by using the prices of manurial units published monthly by the Board of Agriculture and allowing the proper amount for carriage. The ashes of the paper will contain a very small amount of potash. They may be spread, immediately after production, on the surface of the soil anywhere and hoed in at any time.

INJURY TO EUCALYPTUS LEAVES (*R. J. M. S.*).—The insect on the Eucalyptus leaves sent appears to be a species of leaf-hopper (Typhlocyba) or a nearly related genus, and is probably undescribed. The commonest relative in this country is the species which attacks Roses, known as Typhlocyba rosæ. There is no book in English dealing fully with these insects, but perhaps Edwards' "Hemiptera" would be of service. The insects may be controlled by fumigation with one of the nicotine fumigants sold for greenhouse fumigation.

TO GET RID OF WIREWORM (*E. A.*).—Constant cultivation with the hoe during the growing season is the best means of overcoming the wireworm trouble. The sowing of Rape dust and growing of Mustard, where possible, may be of assistance, as is the encouragement of birds which feed on the grubs, like the starling, robin, rook and lapwing. Further, crops such as Wheat may be protected to a large extent by sowing with the crop some superphosphate, which the grubs do not like; and any treatment, such as liming, which encourages the rapid growth of the plant through its early stages may be used with advantage.

NAME OF FRUIT.—*B. H. H.*—Five Crown Pippin.

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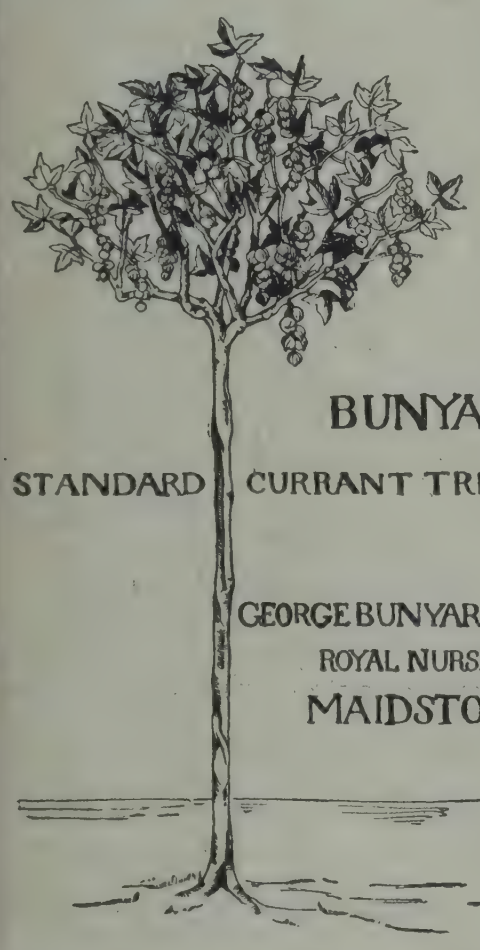

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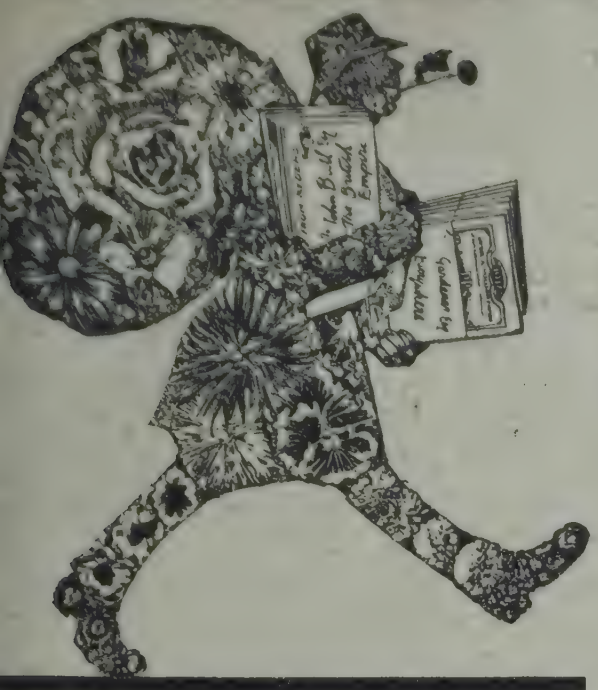

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PEAS, Early (Gradus)	½ ,,	CELERY	½ ,,	PARSNIP	½ ,,
PEAS Maincrop	½ ,,	CRESS	1 ,,	RADISH	½ ,,
BEET, Pragnell's	½ oz.	LEEK, Musselburgh	¼ ,,	SPINACH	1 ,,
KALE, dwarf curled	½ ,,	LETTUCE	½ ,,	TURNIP, White Stone	½ ,,

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THE GARDEN.

No. 2358.—Vol. LXXXI. January 27, 1917.

NOTES OF THE WEEK

THIS year should see a dead set made on Beans, and Peas. It is perhaps known almost universally by now that pulse are most excellent money-savers for those who do not mind going without meat. Their composition is vastly better than that of all common vegetables, including such solid assets as Beet, Onions and Parsnips. The reason is that they contain so much more protein, and this is equivalent to meat. Moreover, they grow it almost free of charge, for they can obtain it from the air and not from the manure with which they are commonly grown. They should not, in fact, get too much of the latter, because if they are overfed there is a tendency for the bacteria in the roots, which are responsible for this action, failing to do their duty.

The Value of Beans.—Why Beans — either Runners or French—are particularly advocated is because they can be turned to such excellent account in the winter. They can easily be potted in salt or otherwise and they keep well and make a most acceptable green winter diet, which renders meat unnecessary if dried pulse or cheese is also used. From recent personal experience we can vouch for their palatability and good colour. There seems to be no reason why Broad Beans should not be preserved also, and Peas, but the latter take up room without the same certainty of good growth as Beans, though they are a shade more nourishing in the green state. Beans would be even better fare and more sustaining if they were cooked whole in the sensible French way. They make an excellent course by themselves thus, and are less trouble to prepare.

Some Good Root Crops.—There are potent reasons for enjoining the heavy growth of Beet, Parsnips and Carrots, for these roots contain a lot of sugar, besides other good solid food, and they keep well. They have much more feeding value than Turnips, and are no harder to grow. The land can stand a pretty frequent repetition of them, too, but they make a good toll on it and pay for good treatment. Salsify is another most excellent winter vegetable, with fine deep succulent roots, and not hard to grow when carefully sown and started well. It is seldom seen, and has more of the animal taste about it than perhaps any other vegetable except Mushrooms. It is called the "vegetable oyster," and makes a very passable imitation when properly cooked. Its flavour is worth testing, and it will stand a moderate frost well.

The Chinese Witch Hazel.—Of the several shrubs which bloom during late December and in January, the Chinese Witch Hazel (Hamamelis mollis) is one of the most beautiful. In addition it is the best of the Witch Hazels, and anyone wishing to grow but one plant of this remarkable family would do well to try this. Although it was introduced as long ago as 1879, it has only been well known for about fifteen years, its merits being unappreciated previous to that time. It can be distinguished from other Witch Hazels by its rather large, rounded, hairy leaves and by its golden petals being flat, with a hooked end instead of twisted, which is a familiar feature of other species. The flowers are borne very freely, and are Primrose-scented. It should be given a position sheltered from cold winds, and thrives satisfactorily in well-drained loamy soil containing a little peat or leaf-mould.

RHODODENDRON FERRUGINEUM PRÆCOX AND GENISTA HISPANICA IN JANUARY.

The Glastonbury Thorn.—The legendary associations attached to the Glastonbury Thorn (Cratægus monogyna var. præcox) are sufficiently interesting to warrant the tree a position in parks and gardens. In the summer and for the greater part of the year it looks much like any other Hawthorn, but about November it begins to bloom, and flowers may be found in mild weather at almost any period during winter, another crop appearing in May. The legend attached to this Thorn is that the original tree grew from the staff of St. Joseph of Arimathea, who in the early days of Christianity came as a missionary to England to convert the heathen. He settled at Glastonbury, and as he appeared to make little headway he prayed that a miracle might be performed to impress the people. He then stuck his staff in the ground, the time being Christmas, and commanded it to flower, which it forthwith did. The original tree, whatever its origin, is said to have grown at Glastonbury, all of those in our gardens having been raised from that one.

Rhododendron ferrugineum præcox.—This little alpine shrub, which is already beginning to show the lovely shell pink of its exquisite blooms, is one of the most accommodating of its genus. We have it growing on the poor thin soil of a shelving bank that in summer is hot and dry, yet it never fails to bloom profusely. One light top-dressing of fibre or peat moss is all it gets in a twelvemonth. Although the blossoms look so delicate, they are wonderfully hardy, and can stand anything but a white frost. It is desirable, therefore, to give it a position that is screened from the early morning sun. Last year the first blooms expanded on January 16, and the shrubs maintained a fine show of colour for fully six weeks of anything but pleasant weather. R. ferrugineum præcox looks particularly well against a background of native Gorse or Genista hispanica, and conditions that suit the one will suit the other.

**** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

What is Wanted in Daffodils.—In looking through some old numbers of THE GARDEN (always a pleasant and profitable employment in the winter season) my eye caught the heading of a short paragraph signed "Ornatus" on "What is Wanted in Daffodils," in which he says, *inter alia*, "But flowers of a class such as, for instance, a magnified Homespun, though badly wanted, do not appear to be forthcoming. . . . . If there is in existence a flower of the calibre and proportions of Great Warley, but with more refinement and a greater length of stem, I have not seen it." Now, there is a flower which to my mind fills all these requirements, and that is King Cup. The trade description is "A large and finely formed flower resembling Homespun, but larger and a stronger-growing plant. Segments broad and overlapping, pale lemon yellow, whole flower 5 inches across, cup 1½ inches. A plant of fine bold habit; flower-stalk 18 inches." This description I can endorse. Its parentage is the same as that of Homespun, viz., Golden Spur × ornatus. It has been referred to by a Colonial grower as "one of the three best incomparabilises in commerce."—DAFFODIL.

Dianthus Allwoodii.—May I be allowed to correct two statements in the article entitled "Dianthus Allwoodii," which appeared in your issue of January 13, page 16? Both occur in the last sentence. It is stated that the scientific committee of the Royal Horticultural Society "gave a unanimous vote of appreciation to this new race of plants." The facts are that a certificate of appreciation was given to Mr. Allwood for his work in raising and segregating a long series of crosses between garden Pinks and the Carnation. A certificate of appreciation is never given to a plant. It is given only for work done and (unlike the first-class certificate, award of merit and botanical certificate) is personal. The scientific committee, in recommending the award, passed no opinion on the garden value of the plants. As was pointed out at the time (see minutes of the committee), the race is not a new one (that is, the cross has been made before), but no name has hitherto been given to cover the whole of the progeny of the cross for which the name Allwoodii will now stand. I believe, however, that there are several varieties already in gardens derived from the same parentage.—FRED J. CHITTENDEN, Hon. Secretary, Scientific Committee, Royal Horticultural Society.

—— We note with interest Mr. Douglas' remarks regarding our new race of Dianthus Allwoodii. However, only a few privileged persons have been allowed access to our trial grounds during the past six years, and outside the scientific committee of the Royal Horticultural Society, nobody knows the secret of their origin. After inspecting numerous seedlings of various types, colours, &c., illustrating the stages of development (many of which will not be shown to the general public for several years), the committee sanctioned the name "Allwoodii." Few in the horticultural world will care to challenge the wisdom and decision of so powerful a committee. We are well acquainted with the excellent work associated with the name of Douglas, also note that Captain Hill-Poë was responsible for the raising of his race of Pinks, many of which we have tested, and while they are excellent, they are quite distinct from our new race of Allwoodii. The origin of Dianthus Allwoodii dates back seven years, when we first undertook the development of a new race of hardy garden Dianthus which would flower perpetually. From our many seedlings and stocks of choice Carnations brought from America by G. W. Allwood, some possessed a habit of growth which impressed us with their possibilities. Crossing these with Dianthus plumarius we obtained many thousands of seedlings, some possessing quite extraordinary merits, which were again crossed with several choice Perpetual-flowering Carnation seedlings, and from some half an acre of seedlings of these we obtained three seedlings of distinct type, which we have worked upon to obtain our objective. It will be readily seen that the work we have done was not possible until the Perpetual-flowering Carnation had been developed to its present high standard for the interblending of

BIG-BUD ON BLACK CURRANTS.

A, A, *Normal growths;* B, B, *Infested growths showing abnormal buds;* C, *The mite highly magnified.*

the blood to have any influence. It will also be seen from the nature of the parents used that the work could not possibly have been done by Captain Hill-Poë, or any other raiser ten years ago. We do not wish to make any bold assertions, but the six varieties we are disseminating are simply the forerunners of a race of very many beautiful varieties, in varying forms, colours, habit and growth, which will find a place in every garden.—ALLWOOD BROTHERS.

In Dispraise of Potatoes.—At the present moment we are being urged on all hands to "grow Potatoes," but I think Sir Walter Raleigh made *the* mistake of his life when he brought this indigestible and detestable vegetable to Europe, where, apparently, everyone got on very well without it previously. Now, as many of us know, it is the first thing physicians cut out of our daily diet on account of its harmful effects. The seed is dear to buy, and it is a speculative crop at all times, as Potatoes are liable to a variety of diseases. They are dirty to peel, and notoriously difficult to cook well. Why, then, in the face of all this, is this pernicious vegetable so vaunted and valued? Now, all ye gardeners, put me in the pillory and pelt me (but not with Potatoes, I pray)!—ANNE AMATEUR.

Big-Bud on Black Currants.—A mite so small as to be invisible, save under a good lens, is responsible for the swollen or abnormal buds frequently appearing on the bushes of Black Currants. The enlarged buds, which are readily recognised from those that are normal, should incite measures of repression being undertaken at once. If the attack is severe, the best method is hard pruning, cutting back beyond the infested parts; if slight, the removal only of all distorted buds. Both growths and buds removed should be destroyed by burning. Frequent dustings with lime and sulphur are a means of prevention and check.—GEORGE ROWLES.

Scentless Musk.—In answer to "M. M. S.'s" suggestion in September last, may I propound the following theory: that the seat of the scent was in the hairs with which the plant was covered, and that after years of residence in our rainy climate hairs were no longer required as a protection from the sun, and the plant has ceased to be hairy, which I believe is the case, and with the hairs has gone the scent. My recollection of the Musk of over fifty years ago is that it was very hairy, and we sprinkled it with water in the evening to bring out the scent, which does not look as if it came from the flowers.—C. C. F.

Manuring Potatoes.—Our experience here with Potato culture fully bears out the statements of "A Scotsman" in your issue of January 6, page 2, with regard to the beneficial results following the application of lime. I know one old farmer who objects to using it within two years of planting the crop, but, like your correspondent, I have never come across anyone who maintained that its evil effects were more than skin deep. The good effect of lime on the table quality of that excellent cropping Potato Great Scot was very marked last summer. In this district of Scotland Great Scot is regarded as a coarse Potato, and in the opinion of some only suited for feeding cattle; and while I have always demurred to this opinion, I certainly could not have recommended it in previous years on account of its cooking qualities. Last season, however, when we planted it in smaller quantity owing to this defect, whereas, as in previous years, the crop was easily the heaviest out of nine varieties, the quality was a revelation and inferior to no other. I attribute this solely to the fact that for the first time for several years the ground was pretty heavily dressed with lime during the winter. With regard to the manuring of Potatoes in general, I note in the "Answers to Correspondents," under the heading of "Kitchen Garden," in the same issue of your paper, you recommend the use of a mixture of superphosphate, nitrate of soda and kainit. The last mentioned scarcely enters into the question, because, so far as one can see, it is unobtainable. With regard to the other two components, it seems bad economy to apply at one and the same time, viz., a month before planting, a relatively slow-acting manure with one which is exceedingly quick. Would it not be advisable to apply the phosphate, say, in February and the nitrate either when planting or soon after? Nitrate of soda is very readily soluble, and is not easily retained except by the very stiffest soils. There is consequently a risk of considerable loss by drainage if heavy rain follows its application.

I have always understood, too, that it is not advisable to mix superphosphate and nitrate, owing to the fact that the superphosphate, being acid, acts on the nitrate and there is a loss of nitric acid. If it is inconvenient to apply the manure in two operations, would it not be preferable to substitute sulphate of ammonia for the nitrate? It is slower in action; it is more easily retained in the soil; it is more concentrated and, judging by manure lists, is cheaper in consequence; it is safer to use with other manures (except basic slag); it is a home product; and it has not, apart from agriculture, the same national importance as the nitrate. The question of correct application of manures is, at the present time especially, of more than academic interest, and I am sure there are many readers like myself whose knowledge of chemistry is limited and who feel that in applying artificials they are more or less groping in the dark. Will not some of your able correspondents enlighten us as to what to do and what to avoid in handling artificials?—S. H. [We think it inadvisable to mix superphosphate and nitrate or to use kainit, even when it can be obtained, later than the autumn digging, and should certainly recommend mixing sulphate of ammonia in place of the nitrate for Potatoes. The mixture may be sown on the ground at planting-time, and 3oz. of a mixture of four or five parts of superphosphate with three parts of sulphate of ammonia to the square yard would be a good dressing. Sulphate of ammonia must not be mixed with lime or basic slag; it only gives its full benefit where the soil already contains lime, and the same thing is true of superphosphate. As our correspondent says, potash salts are unobtainable in any quantity, and kainit is by way of being a curiosity in England now. Some will be able to use fresh wood-ashes, which are as valuable as kainit, used at the same rate; but lime added to clay soils sets free potash from the otherwise unavailable stores contained there, and those who have to deal with clay soils may content themselves with liming in the full assurance that their crops will not lack potash. Both sulphate of ammonia and superphosphate are wholly British products, the former being a waste product in coal-gas manufacture, and the same is true of basic slag, which is best used in autumn, and is likely to give good results only on heavy or very moist lands. Nitrate of soda, nitrate of lime and cyanamide are all imported products, and should not be purchased while lime and sulphate of ammonia are available at reasonable prices.—ED.]

AN ONION SET AND BULB.

Onion Sets.—Referring to this subject in your issue of last week, page 21, some of the advantages gained by using Onion sets are: (*a*) A strong plant to start with.—Instead of sowing a seed which has to run all the risks attendant upon germination and the subsequent fragile life of a tender seedling, you commence with a small but vigorous young bulb capable of looking after itself. (*b*) Immunity from Onion fly.—Owing to the big start secured by the Onion set over a young plant from seed, by the time the Onion fly is about, the plant is too big to suffer. Should the fly lay its eggs in the axils of the leaves, which is less likely to occur owing to the greater resisting power of the mature foliage, the grub has a "long, long way" to go before it reaches the root, and on arrival there it can do little or no harm to such a vigorous plant. (*c*) Earlier crops.—By eliminating the tedious germination and young seedling stages, the natural result is a much earlier crop of mature bulbs than could be obtained from seed; and not only this, but the bulbs are better ripened, because of the fact that they attain maturity and a ripe condition while the days are warm and sunny. Culture and general treatment.—The sets should be planted in the same way as Shallots. The tiny bulbs should be pressed into the soil if it is light, and the ground made firm about them, leaving just the tips of the bulbs exposed. They may be set 6 inches to 9 inches apart in rows 9 inches to 12 inches apart. The time to plant is as soon as the soil is in a fit, friable condition, say, from about the second week in March to the middle or end of April.—BEES, LIMITED.

Hybridising the Gooseberry. I am forwarding you by this mail a copy of the 1915 Report of the Botanical Office of British Columbia, in which you will see an account of some work I have been doing in the way of trying to improve the Gooseberry by hybridising it with our native Ribes divaricatum. I thought this might interest you, as the seedlings raised (of which I send you a photograph) are mildew-proof. It is almost ninety years now since David Douglas sent home R. divaricatum. Surely it has not been left all these years for me to be the first to use it in this connection! The issue of THE GARDEN for November 18, in its description of Gravetye Manor and of Mr William Robinson (well known

A NEW GOOSEBERRY HYBRID.
Red Jacket × *Ribes divaricatum.*

out here), reminds me that I have been a reader of THE GARDEN off and on since 1872, the year after it was founded. In November, 1872, I went to serve my apprenticeship at Gordon Castle, and was very soon deeply interested in THE GARDEN.—GEORGE FRASER, *Ucluelet, British Columbia.* [We have pleasure in recording our correspondent's success from information supplied by him: "Some time before 1912, owing to the prevalence of several pests, he destroyed all his Gooseberries and Red and Black Currants, with the exception of a small bush of the Red Jacket Gooseberry, which, though a poor fruiting kind at Ucluelet, is naturally a 'clean' variety. In 1912 this bush had four flowers on it. These were prepared for hybridising by removing the stamens before they dehisced; they were then pollinated with pollen from Ribes divaricatum and the flowers covered with cheese-cloth. As a result he obtained about thirty hybrid seedlings, ten of which bore fruit during the summer of 1915. All the seedlings were similar and showed mostly the characters of the 'male' parent. Ribes divaricatum is one of the most common wild Gooseberries in the humid-transition areas of British Columbia; it flowers and fruits profusely, but the berries, though possessing a rich Currant flavour, are too small to be of economic value. Red Jacket was raised by the late Dr. Wm. Saunders of the Dominion Experimental Farm, and was the result of crossing the famous English variety Warrington with an American kind called Houghton's Seedling. If the latter is from an Eastern American species, the new Gooseberry will have three species in its constitution." Unless we are much mistaken, a similar hybrid—possibly the same—was shown at the Royal Horticultural Society's Fruit Show in September last. The hybrid as shown in London was rather a poor thing, but we think it has great possibilities as a basis for further crossing. Many attempts to hybridise with the Gooseberry in this country have been unsuccessful, and we are glad to announce its accomplishment by one of our American friends. Not the least hopeful feature of the hybrid is that it is said to be mildew-proof.—ED.]

WINTER EVENINGS

IT is perhaps a far cry from the National Mission to the cult of gardens, but the abiding theme of an excellent sermon by a Bishop's Messenger was "Cultivate your conscience and your conscience will be your friend." Which suggests to me, Cultivate your brain and your brain will be your friend; cultivate your garden and your garden will be your friend.

In an address to women workers on "Growing Old," Mrs. Creighton once said, "We may try to have an innocent employment which shall have some fascination for us, and so keep us happy and content. We cannot hope to find this in reading, if we have not *kept our interests alive.* It is most desirable, also, to cultivate a delight in literature as such, in poetry, in books which can be read over and over again, and which tell us more each time we read them. With such a power we need never be alone—the thoughts of the great men of old, our own thoughts, above all, the thoughts of those whom we have known and loved about what we read, will keep us company."

It is not given to all of us to possess the delightful hordes of garden books of some; but even if we have only one shelf of them, its contents are our intimate and dearly loved friends, with whom we hold sweet converse. And then, too, there are the libraries. How many, I wonder, of the Fellows of the Royal Horticultural Society make use of the Lindley Library when in Town, or realise that a line to its courteous custodian will bring them a month's reading by return of post? For country members this (not forgetting the Journal) is perhaps the most valuable asset. (By the way, the date of the most recent catalogue of the Royal Horticultural Society's Library is 1898!)

From reading and dreaming of garden pictures our thoughts wander to wild Nature pictures, seen perhaps through the mist of years, but none the less clearly. Reading again "The Orchids of Italy," by W. Herbert Cox, in THE GARDEN of May 20 last, I find he says: "but the Bird's-nest (Neottia Nidus-Avis), the Sweet-scented Gnat (Gymnadenia conopsea) and the Twayblade (Listera ovata) are fairly rare, though the last may often be seen above Lake Maggiore." It has never been my lot to wander among the Italian hills, but I had the great good fortune to spend the early years of my life in a part of England where these and many other Orchids were quite commonly to be found. And "Nature, the dear old nurse, took the child upon her knee," and taught her to *keep her interests alive.* A picture I now recall most vividly is in a North Country dene, where, under a dense grove of Beech trees, the loose limestone marl had years before been excavated to make the road, leaving a depression some 80 feet by 20 feet by 8 feet or 10 feet. Time had half filled the space with decaying Beech leaves, and here, on that long-past June day, a company, nay a battalion, of that curious Bird's-nest Orchis was revelling in its typical home. A more perfect example of vegetable mimicry one could not find. Had not the glint of the summer sun through the trees just touched the flowers, I might have walked past without seeing them. The whole plant is a pale reddish brown, stands about a foot high, and in place of leaves has numerous sheathing brown scales. Individual specimens, or two or three together, I have found in the same wood before and since, but never such a company. For such a finding and its remembrance, thanks be. There are other pictures, too, to be seen in the embers' glow—sheets of Sea Lavender in bloom on the salt marshes of the Norfolk coast—a misty, beautiful haze of blue. The first sight of the Chalk Hill Blue butterflies flitting over the sunny downs of that same fascinating county. The scent and sight of the beds of Heliotrope (a garden picture this) in a beautiful garden discovered by chance when walking from Bourne End to Burnham Beeches one lovely September day. Shall I ever forget it, or the patience of the courtly old head-gardener who showed me round?

Again, the golden blaze and overpowering scent of the Gorse on a Cornish moorland, on the

HEATHER PERFECTION.
A Tasmanian seedling trumpet.

way to Bedruthan's Steps! The giant must often have drunk his fill of it on his way to the Causeway.

"All down in Cornwall
The Gorse is out in flower,
Golden leagues and leagues of it,
A golden fairy dower,
And the hot sweet scent of it
Rises as we pass
Like incense at the sacring
Of the Holy Mass."

—DOROTHY FRANCES GURNEY.

Memories such as these and many more come crowding back as we read and dream. "Eyes and no eyes"—the eyes have it! Mrs. Creighton was right; we need never be alone.

We love our gardens—may we never cease to care for them tenderly. One of the joys of the quickly lengthening days is the thought that in a very few weeks the green points of the Snowdrops and Crocuses will be thrusting through the soil and all Nature awakening from its sleep. Meantime, let us cultivate our brains, that later we may cultivate our gardens aright, and so in time they both shall be our friends.

Altrincham. W. D.

DAFFODIL NOTES

BY THE REV. JOSEPH JACOB.

Fusarium and Eelworm.—I have lately had several enquiries as to whether or no anything was being done in the way of finding out the best means of combating the ravages of these pests, which are now assuming alarming proportions. A special observer and worker began to investigate last summer at Wisley, and at the Royal Horticultural Society's Daffodil Show in April next we are promised a lecture or statement from him about what he has done. A very large and experienced grower of Daffodil bulbs for sale has recently made the suggestion that deep planting may be a means of mitigating the evil of Fusarium, at all events. Not wishing to be too much of a Jonah, I am happy to be able to state an experience of this same gentleman in 1886 which, by the way, has nothing to do with deep planting. He then imported a 5,000 lot of Horsfieldii from Holland. Something—either Fusarium or a near ally—attacked them, and in the space of two years no fewer than two-thirds had "gone." "After that," he says, "they seemed to grow all right, and we had no further trouble." I know this was the idea of a man of great experience, Mr. Walter T. Ware, when last I talked with him: "Lor', bless you, you will see they will grow out of it." May it be so. Dame Nature has many wonderful old-fashioned remedies in her medicine chest, and she may beat us all yet with our bluestone solutions and goodness knows what else.

Daffodils in Tasmania.—It will be news to some that there is a flourishing Daffodil show in Hobart every autumn, and that home-raised seedlings are exhibited there. At the exhibition held on September 7 last Mr. J. H. Hinsby of Taroona staged a collection of his own seedlings, which I am told by the secretary were greatly admired. Included were yellow, bicolor and white trumpets. Judging from written descriptions, one of the best was a seedling from Monarch crossed with King Alfred, which has a flower of similar shape to the seed parent, with the rich colouring of the last named. Another, a yellow with a sort of gramophone-shaped trumpet, described as a fine bloom with a beautiful flat perianth, reads as if it were rather out of the common. In his "incomps" there is one which by its description reads like a glorified Lucifer with a perianth with a diameter of 4 inches. Perhaps the best flower was a circular-shaped Poet with segments, each about the size of a florin, broadly overlapping. It is described as a very fine thing, and so it must be if it has a good eye of corresponding proportion. Several triandrus hybrids are also described, but enough has been said to show that seedling raising has taken root in Tasmania, and it seems certain that seedlings are one of the great attractions of the yearly Daffodil show. In 1915 Mr. W. H. Higgins of Geelong sent to Hobart a large collection which contained many novelties. He is one of the great Australian dealers, and judging his flowers by his catalogues he must be able to make a great display.

NOTES FROM THE RIVIERA

By Edward H. Woodall.

THE bees are humming busily in the bright rose flowers of Lopezia miniata; starry Anemones and the first blooms of the Celandine are wide open in the sun; Crocus Imperatii makes bold patches of colour among the grassy green foliage of the Freesias that carpet the ground under the Orange trees, now in fullest beauty of golden fruit; and over all is spread a canopy of restful blue that is the harbinger, we trust, of better and happier days to come this year. The contrast in many ways is curious when compared with last year. Then everything was unusually early; this year quite contrary conditions prevail, and at first it might seem difficult to account for the late season. It is, however, if I am not mistaken, caused by the great difference between the two months of October in last year and the year previous. In 1915 the month of October was most unusually cold throughout, and vegetation had a premature check that caused an early spring. During last October, however, the temperature was high, and one week was extra hot, with a few days of sirocco rain that kept things growing rapidly; so plants have not had their rest in October like the previous year, but had to wait till December arrived, when we had twenty days of cold storms and rain that have destroyed all the more tender flowers and given, I trust, a salutary check to vegetation that will respond all the more vigorously in due season. Last year the Almond tree was already in bloom at this date. I should think it will be a month before it can flower this year. Acacia Baileyana was already past its fullest beauty. This year I have seen only one early tree in blossom. I could give many more instances, but these two will suffice to show how the question of an early or late rest and check to growth affects their behaviour. It is the winter Roses that have suffered most—all their blooms have rotted at their base. Carnations have suffered somewhat less at the moment, but will show by and by how the damp has injured their roots. Mignonette is ruined except where screened from the wet, and of all the Primula family P. malacoides and P. kewense alone are tolerably happy, so that many gardens are shorn of their bedding glory and must be content to wait till the Tulips appear and the long-suffering Schizanthus begins to flower afresh. Violets that were so poor last season will prove abundant this year. The fair white and fragrant Teneriffe Broom (Genista monosperma) is beginning to show its flower foam. Lopezia miniata and Linum trigynum are, as ever, a joy on the sunny terraces where there is a little Olive spray overhead, and the Rosemary and Teneriffe Lavender are flowering freely on the driest banks.

RUBUS NUTKANUS (THE SALMON BERRY).

RUBUS NUTKANUS

THIS is the largest-flowered of all the Raspberries, and that says a good deal, for the handsome pink-flowered Rubus odoratus bears flowers over 2 inches in diameter and R. deliciosus is often mistaken at a distance for some early flowering single Rose. Though not so round and full as in those two species, the petals of R. nutkanus, in a good form, are decidedly longer, and bring the flower to a width of nearer 3 inches than 2 inches.

It is a variable plant, as one might well expect, seeing that it ranges along the North-West Coast of America from Vancouver to California; and the three beautiful figures of it to be found in the *Botanical Register*, t. 1368; the *Botanical Magazine*, t. 3453; and Sweet's "British Flower Garden," Ser. II., t. 83, might almost represent different species. The *Botanical Magazine* plate best represents the form most frequently seen in our gardens and shown here in Mr. Moon's beautiful sketch. I grow three forms of it here, but may any day reduce them to two, for the last comer was given me as a seedling, with the recommendation that up to date it had not begun to run. It made up for its two seasons of stay-at-home meekness by appearing last summer yards away from the central tuft in all directions; and as its flowers are smaller than those of the older form, it had better go out into the woods if ever again there is time and labour on hand to take it. I have also a dwarf form given me some fifteen years ago that has never attempted to run, and is so reluctant to start that I have never even been able to divide it. It has fine large flowers, but had such a dwarf, hump-backed appearance that it looks unhappy compared with the rollicking, ramping ordinary form. This may be described as one of those plants that just misses being first class. Like Kitaibelia vitifolia and Lavatera arborea, its leaves are too large and too numerous for its blossoms, and, again, it is such a runner that the edge of a large shrubbery or the wild garden is the best place for it. In some seasons it bears a goodly number of handsome, soft crimson fruits, but so flavourless that they are little better than a mouthful of snow or the fruit of Fragaria indica, of which not even a small boy will eat a second.

To get the best effect from a colony of this Rubus, the old canes should be cut out after flowering and only a moiety of the numerous young ones left. These will then grow strong and straight, and flower more freely than when left to become crowded and crooked. E. A. Bowles.

MID-JANUARY FLOWERS AT KEW

"Who loves a garden, loves a greenhouse too,
Unconscious of a less propitious clime,
There blooms exotic beauty, warm and snug,
While the winds whistle and the snow descends."
—COWPER.

IT is at such a time as this, while wandering through the glass structures in the Royal Gardens, Kew, that the above lines are in harmony with one's feelings. The Conservatory (No. 4) is well filled with flowers, and here a floral feast awaits the visitor. Opposite the main entrance the tender Buddleia asiatica, together with its near relative B. officinalis, are effectively grouped, the graceful white panicles of flowers particularly adapting themselves for a pleasing display. Close by, Chorizema ilicifolium, with its orange red, Pea-like flowers, is most attractive; while a wide range of colour is provided by Primula sinensis, Cyclamens, Carnations and a few Chrysanthemums, the last named including the bright yellow W. H. Lincoln.

An easily grown plant, but one not commonly met with, is Jacobinia pauciflora. It possesses yellow flowers, is most floriferous, and as easily grown as a Fuchsia, while, flowering as it does in the depth of winter, it is to be recommended as a subject deserving of more popularity. Another species is J. chrysostephana, a very attractive plant with its yellow flowers produced in dense terminal corymbs. In the earlier part of the month the winter-flowering Begonias were the centre of attraction in this structure. The plants were exceptionally well grown, and bore witness of a high standard of cultural skill which had been brought to bear upon them. At the time of writing, many of the plants have been removed, but the variety Exquisite still remains, and where a large-flowered Begonia is required, this is a variety which could be confidently recommended. The colour is soft rose, shading almost to white at the base of the perianth, while additional beauty is afforded in the bright yellow stigmata. The deep blue Eranthemum pulchellum, known to some by the name of Dædalacanthus nervosus, presents a bright appearance, and in one part of the conservatory it is blended with the pale lemon yellow Reinwardtia trigyna. Another species of Reinwardtia is R. tetragyna, the colour being a deep yellow, but these plants are doubtless more familiar under the specific name of Linum. Of yellow flowering subjects, prominence must be given to Lindenbergia grandiflora, a valuable winter-blooming plant which remains attractive for at least three months and is grown in a compact, bushy form by systematic cutting back. The flowers are tubular and a delightful shade of pale yellow. Of Acacias there are A. platyptera, deep yellow; A. alata, cream; A. urophylla, cream; and A. Baileyana, a charming grey-foliaged species with bright yellow flowers.

Erica melanthera plays an important part in the decoration of this structure, and here and there are to be seen some magnificent specimens. The flowers are borne in profusion, the black anthers forming a delightful contrast to the dull white petals. E. hyemalis and its white form E. h. alba, together with E. Vilmoreana, are also represented. A pretty combination is afforded by Begonia Mrs. J. A. Peterson and Abutilon Savitzii, the deep-coloured foliage and rose flowers of the former contrasting in no mean manner with the dainty variegated leaves of the latter. Other subjects worthy of mention are Correa alba and C. magnifica, Statice brassicæfolia, Centropogon Lucyanus, Grevillea Thelemanniana, Sparmannia africana, Rhododendron Taylori, Impatiens Holstii, Ardisia crenata (a fine scarlet-berried subject), Boronia fastigiata, Camellia japonica magnoliæfolia and Crassula lactea.

Euphorbia pulcherrima and its varieties alba and the charming rosea are to be found associated in a semi-circular group; and the cobalt blue Pycnostachys Dawei, although not yet at its best, is staged in a very attractive manner.

In the T Range many of the aforesaid plants are to be found, and in No. 7 House Abutilon Milleri, Hibbertia dentata and Rhodochiton volubile decorate the rafters. Columnea magnifica, Begonia Gloire de Cincinnati, Aphelandra nitens, A. chamissoniana, Euphorbia fulgens and Plumbago rosea are a few of the outstanding subjects in the adjacent house. The Orchid Houses are also worthy of mention, Calanthes, Cypripediums, Odontoglossums and Lælio-Cattleyas being represented by many fine species, varieties and hybrids.

The Temperate House, truly a winter resort with many visitors, presents a refreshing appearance; but it is in early spring that this structure commands most attention. Nevertheless, there is much to arrest one's eye, and no better tonic is to be partaken of than a ramble round the greenhouses at Kew in the bleak, dismal weather we have been experiencing of late. J. K. R.

REINWARDTIA TETRAGYNA NOW FLOWERING AT KEW.

PRUNING NEWLY PLANTED FRUIT TREES

THIS subject may well be treated as an annual, because the principle of pruning or non-pruning newly planted fruit trees has to be decided each year where new trees are planted. This, like many other horticultural topics, cannot be expected to provide complete unanimity, owing to the various notions engendered and also by different circumstances as to the time of planting. In some instances this takes place in October, in others as late as April. Non-pruners argue that trees planted so late as April succeed better if pruning is deferred entirely until after a season's growth, which enables the roots to recuperate and prepare the trees for a stouter effort the following year. On the principle that there are exceptions to every rule, I have little to say against allowing such trees to go on in their own sweet way for one year at least. As a rule, though, 90 per cent. of fruit trees are planted before Christmas or during the opening months of the year, and it is with such as these I am mostly concerned, for the benefit of new readers with no previous experience.

At the outset I would say I am distinctly in favour of pruning the same season as planting, and for reasons which I will endeavour to show. In growing fruit trees the aim should be to obtain in the time as great an area of properly prepared tree growth as possible. This is undoubtedly the main factor of consideration. The non-pruners say newly planted trees should not have two checks given them at one time. They argue that the replanting of the tree gives a check to growth

by interfering with its roots, and, to prune the branches that season is to give it another check. They say, let the tree alone for one year until it has recuperated its energies, and prune back the shoots the next year. Surely this practice means the loss of a whole year in growth, and in these days, when all that can be had from the land is required, we cannot adopt a practice like this, which, to my mind, wastes a whole year in the growth of the tree.

Again, the non-pruner says, take out the point of the shoots. This remedy is equally bad, because the little growth such trees will make means but a few inches, but along the bulk of the shoots fruit-buds will form, and this action hampers the proper progress of the tree desired to give a sufficient area for future fruit production. When such branches are thickly set with fruit-buds, the difficulty afterwards is to get them to push satisfactory growth except by close pruning, and too often it is found that the basal eyes have perished, becoming useless for the future.

In favour of pruning the same season as planting, I say that by cutting back the shoots on a standard Apple tree, for example, which are, when planted, say, 2 feet to 3 feet long, to within 8 inches of the base, instead of this being a second check it is a concentration of the energies of the crippled tree to a much reduced area, thus enabling the tree to pu h forth strong growth near the base and retain the necessary shape and formation of the future tree. When these shoots are left intact or merely the points removed, the tree has not sufficient energy to push forth growth from each bud, and the consequence is a host of flower-buds where not required.

Trees cut back in February will produce shoots from 2 feet to 3 feet in length the first year, and if these are correctly pruned, the second year a good foundation for a future fruit crop is quickly assured.

Swanmore. E. MOLYNEUX.

A HOUSEWIFE'S LIST OF VEGETABLES FOR 1917

DURING the past few days I have sat surrounded by seed catalogues, comparing them with my last year's list and notes of how the vegetables turned out, and holding conferences with my gardener as to spaces and rotation of crops, before making out this year's list and orders. (I regret to remark that the compilers of *some* of the said catalogues would seem to be lineal descendants of Ananias and Sapphira.) There will be, of course, a small supplementary list in July for autumn sowing and to fill vacant spaces. Every year also I try some kinds of vegetables not previously grown in my garden.

My list may perhaps interest and help other harassed housewives in these days of dear and difficult providing. If one leaves it to the gardeners, those good men are apt to consider what *they* prefer to grow, rather than to aid the mistress and cook to maintain a good variety of vegetables for the table *daily* all through the year. As the soil here does not suit long roots, I grow chiefly globe and round ones. These also please the cook best.

Potatoes I have left to the gardener, as I never grew any till the last three years. His selection is as follows: Sir John Llewelyn, 56lb., first early; Cigarette, 56lb., second early; Windsor Castle, 56lb., main crop; Factor, 56lb., main crop; King Edward, 56lb., late crop; and trial boxes of Epicure, British Queen and Diamond to see if this soil suits them. After my tirade against Potatoes, it may seem strange I grow so many, but I am in a minority of *one* in this matter, so I grow them for the six others, who seem to think they would starve without them. Perhaps you will agree with a relative of mine, who remarked on one occasion, "Nan *talks* nonsense, but *acts* sensibly." To which I retorted, "Then I am the reverse of King Charles, who 'never said a foolish thing and never did a wise one.'"

With regard to the "Mammoth" White Runner Beans, I must explain we use them when about 8 inches to 9 inches long. They are then as delicate as good French Beans, and the plants continue to bear freely till cut down by frost. I have grown this variety for about twelve years, and though I try some other kind against it every year, still find it far the best.

THE GOLDEN-FLOWERED JACOBINIA CHRYSOSTEPHANA.

This year I am trying a number of small packets of Broccoli and Cauliflower from a North Country seedsman. Usually one can only get packets far too large and expensive for a small household; and as Cauliflowers have the bad habit of all being suddenly ready at once and soon spoiling—the gardener wants us to eat some twenty-five to fifty Cauliflowers within a fortnight, and the family rebels against this—I had given up growing them of late years.

Given an ordinarily favourable season, my list will enable us to contemplate "meatless days" with calm composure. In the remote region where I write we are not unused to such. The nearest butcher lives some miles away; he only calls here twice a week, and in bad weather he sometimes fails to come. Then (having auxiliary resources, such as really good curry powder, anchovy and other sauces, and the absolutely invaluable "chunk" of Parmesan cheese, together with home-made pickles, jams and bottled fruits) Mrs. Busy Bee can give us a meal such as follows:

A good vegetable soup ***à la jardinière***, assisted by a little thoroughly dissolved tapioca and a raw egg stirred in.

Mock fish course of Salsify parboiled, sliced and fried in egg and breadcrumbs, and a dish cunningly compounded of Jerusalem Artichokes, with anchovy sauce (the Artichokes a wee bit underdone). This resembles baked scallops.

Omelettes ***aux fines herbes***, and a curry of which the foundation is Danvers' Brown Onion, fried first with the curry powder, and then, in addition, the last "contemptible little" half-ripe remains of the Up-to-Date Tomatoes (gathered green and set in a sunny window to ripen), a varied assortment of Swedes, all sorts of vegetables, some sour Apples, and, maybe, some bottled Damsons or Plums. Several dishes of vegetables with the curry and omelettes.

Bottled fruit and junket tarts, with home-made jam, home-made fruit jelly, cheese straws, cheese, salad of cold vegetables, Beetroot, &c., home-made pickles, and Celery.

Dessert of Apples, and a fruit salad of home-bottled fruits and jellies.

The meal is concluded gratefully with "grace after (no) meat."

Here follows my list of vegetable seeds for 1917:

Broad Bean.—Royal Dwarf Cluster, 1 quart.
Dwarf French Bean.—Canadian Wonder, ½ pint.
Runner Beans.—Sutton's Mammoth White, 1 quart; experiment, Hackwood Park Success, 1 pint.
Peas.—Little Marvel, 1 quart; Gradus, 1½ quarts; Autocrat, 1½ quarts; experiment, Veitch's Perfection, 1 quart.
Cabbages.—Harbinger, 1oz.; Little Gem, 1oz.; Favourite, one packet; experiment, Barr's Best of All, one small packet.
Brussels Sprouts.—Dwarf Gem, 1oz.
Kales.—Asparagus, 1oz.; Variegated, one packet: experiment, Green Prolific Sprouting, ½oz.
Pickling Cabbages.—I buy a few seedlings.
Savoys.—Early Ulm, ½oz.; Tom Thumb (have grown this for years), ½oz.; experiment, Norwegian, ½oz.
Broccoli.—Purple Sprouting, ½oz.; experiment, six various in small packets.
Cauliflowers.—Ten various in small packets.
Beetroots.—Egyptian Turnip-rooted, 4oz.; experiment, Sugar Beet, 4oz.
Turnip.—Green Top Six Weeks, 4oz.
Parsnips.—Tender and True (have grown this for years), 2oz.; experiment, Hollow Crown, 1d. packet.
Carrots.—New Red Intermediate, ½oz. This is the best, but the soil here is not good enough; so grow also Champion Scarlet Horn, ½oz., and Early Gem, under glass, 2oz.
Swede.—Toogood's World's Best, 8oz.
Onions.—Danvers' Yellow, 1½oz.; Giant Rocca, 1oz. experiment, Rousham Park Hero, ½oz.
Shallot.—Home-saved bulbs, 20lb.
Leek.—Sutton's Prizetaker, ½oz.
Salsify.—Sutton's Giant, 1oz.
Spinach.—Long-standing Round, 1oz.
Spinach Beet (A most valuable vegetable and very prolific), ½oz.
Sorrel.—French Broad-leaved (for soup, salad and sauce), ½oz.
Vegetable Marrows.—Long Green Striped, one packet; mixed, one packet; experiment, Bush White, one packet.
Gourds.—Veitch's Giant, one packet; Large Yellow, one packet.
Cucumber.—Ridge, one small packet.
Lettuces.—Heartwell Cabbage, one large packet; White Heart Cos, one large packet.
Radishes.—Scarlet Globe, ½oz.; Earliest of All, ½oz; Early Rose, ½oz. Black Spanish (winter), 1oz.

Cresses.—American, ½oz.; Australian (very good), ½oz.; Plain, ½oz.
Mustard.—White, 1½oz.
Dandelion.—Broad-leaved (home-saved, to cut small with Mustard and Cress).
Corn Salad, ½oz.
Chervil.—Curled, 1oz.
Parsley.—Imperial Curled, 1oz.
Tomatoes.—Sunrise (best flavour), two dozen; Up-to-Date (most prolific), two dozen; seedlings in boxes.
Celery.—Two kinds, early and late, four dozen; seedlings in boxes.
Flowers.—Borage (I *pretend* this is still useful, but grow it for pleasure and for bees). Pot Marigold (orange and lemon), tall Nasturtium (flower petals and leaves for salad, seeds for pickling).
Herbs.—Marjoram, Summer Savoury, Basil and other annuals: small packets.
Permanent vegetables and herbs, Jerusalem Artichokes, Seakale, Rhubarb, Watercress, Mint, Sage, Thyme, Tarragon, Fennel, Winter Savoury and, last but not least, a row of Chives.

ANNE AMATEUR.

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATE.

Odontoglossum Felicia (O. Thompsonianum × O. crispum).—A well-flowered example of this showed it to be a hybrid of merit and distinction. The sepals and petals are of dark maroon, with violet-coloured tips; the lip is of pale violet, the crest marked by golden lines. Shown by Messrs. Charlesworth and Co., Hayward's Heath.

AWARDS OF MERIT.

Cypripedium Lathamianum Cardinal Mercier. A very handsome form in which the dorsal sepal—coloured crimson brown, with pronounced white margin—is a strong feature. The sepals and petals are of chestnut red colour and somewhat chequered with green. From the Rev. J. Crombleholme, St. Mary, Clayton-le-Moors, Accrington.

Odontioda Gratrixiæ Bryndir Variety.—One of the most intense coloured varieties we have seen. Save for its gold feathered crest, the flower is wholly coloured a maroon crimson. Shown by Dr. M. Lacroze, Roehampton, S.W.

Odontoglossum Conqueror (O. illustrissimum × O. crispum).—Briefly described, this is a handsome, well-blotched O. crispum, whose chequered violet and white flowers give it a character of its own. A fine-habited plant with a raceme of fifteen flowers was shown. From Messrs. Armstrong and Brown, Tunbridge Wells.

Cyclamen Crimson St. George.—A variety on all fours with St. George, save in the colour of the flowers, which are reddish crimson. The new-comer, in common with the original, is of conspicuous beauty and ornament by reason of its silvery leaves, which are marbled with green. From the St. George's Nursery Company, Harlington.

Corylus Avellana contorta.—A very curious and interesting form of the common Hazel, originally found, some thirty years ago, it is said, by Lord Ducie in a hedgerow at Trowbridge. The plant is more interesting in winter than at any other season, when the contortions of every twig and branch are clearly seen. An old specimen, 8 feet or more high and several feet through, was shown by Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree.

Pantia Ralli, Esq., Ashtead, Leatherhead (Orchid-grower, Mr. H. White), was given a cultural commendation for Odontioda keighleyensis, a preliminary commendation card being granted to Odontoglossum Peter, shown by Messrs. Flory and Black.

The foregoing novelties were before the Royal Horticultural Society on January 16, when the awards were made.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Vegetables Under Glass.

Peas.—Sow six seeds of varieties like Early Giant and Edwin Beckett in 10-inch pots, and place them in a cool house to provide early pods. Allow 2 inches of space at the tops of the pots for future top-dressings.

Broad Beans.—Treat these in the same way as Peas, sowing the Longpod varieties.

Potatoes.—Place well-sprouted tubers of May Queen, Duke of York and Ringleader singly in 10-inch pots, three parts filling them with a light compost. Stand the pots in a vinery or Peach-house just started where the temperature is not less than 55° by night.

Seakale and Rhubarb should be brought into the Mushroom-house, where available, to keep up a constant supply. In boxes under stages or in the stokehole where a moist warmth is available will also suffice.

Mushrooms.—Continue to collect and prepare the manure in batches by throwing it into heaps in an open shed, occasionally turning it over to get rid of the rank steam. Make up the beds as fast as possible in sheds or houses, allowing a depth of 18 inches of manure, made quite firm. When the temperature of the bed recedes to 75°, insert 2-inch pieces of spawn, 9 inches apart, evenly over the bed, covering with an inch of fine loam and making it quite firm. To maintain an even temperature and moist soil, cover the beds with hay or short straw.

Tomatoes swelling their fruit should receive occasional doses of weak liquid manure. Make sowings of Sunrise and Golden Perfection for succession. Grow the plants sturdily from the start in a temperature of not less than 60°.

Chicory should be introduced to any warm site where the light can be excluded.

Plants Under Glass.

Carnations.—Propagate all Perpetual-flowering varieties as fast as possible. Stout cuttings inserted in sandy soil or all sand over a gentle bottom-heat quickly make roots, and should soon be potted off singly, keeping them in a temperature of 55° to 60°.

Malmaisons.—Plants of this section should be carefully watered, keeping them on the dry side rather than the reverse at this season. A high temperature should be avoided; 45° to 50° is ample. Keep the plants free from decaying leaves. Leaves showing the slightest sign of rust should be picked off and burnt.

The Flower Garden.

Sweet Peas.—Autumn-sown plants in frames should have free exposure, except during frosty weather. Plants 4 inches high should be topped, to induce stronger growths from the base to push forth. Sow at once the main batch of seeds in pots, four seeds in one 3-inch pot, transferring the seedlings to 5-inch pots later on. This method ensures good plants for putting out in clumps in April. A gentle warmth induces a quick germination, which is all in favour of a good start. Directly the plants show through the soil they should have cooler quarters and be placed near to the glass to ensure a sturdy growth.

Antirrhinums are a popular class of summer-flowering subjects. They give little trouble, are easily raised from seeds, flower continuously and abundantly from July until November, and are neat in habit. Sow the seeds at once in sandy soil in boxes or pans in a gentle warmth, afterwards growing them on sturdily by transplanting the seedlings to other boxes preparatory to finally planting them where they are to flower.

Cannas should be divided where an increase in the number of plants is required. Every piece with a root attached will quickly make a plant if placed in gentle heat for a time.

Dianthi, Gaillardias, Larkspurs and Lavateras are of simple growth and give a wealth of flowers. Sow at once, and grow sturdily in cold frames.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Carrots.—Where it is convenient, a hotbed should be made up and seeds of these useful vegetables be sown. Early Short Horn varieties are best suited for frame work.

Peas.—For the earliest crop our general practice is to sow in narrow boxes about 4 feet long, 4 inches wide, and about 5 inches in depth. Place some rough turf in the bottom and then sow in a fairly rich compost. The seeds may be sprouted in a moderately warm house, and then placed in a cold frame to harden off before planting out on a warm border. Care should be taken that the roots receive as little damage as possible in the process. After several years' experience with this method we find ourselves able to gather Peas much earlier and also escape the ravages of mice among the seed lines.

Broad Beans.—In the earlier districts a sowing of Broad Beans may be made now, choosing a nice warm border for the purpose. The Longpods are preferred for early work, and the general way is to sow in double lines, allowing about 2 feet between the double rows. The two lines forming the double rows may be about 6 inches apart. Where mice are troublesome, it is well to soak the seeds in paraffin for fifteen minutes before sowing.

The Hardy Fruit Garden.

Raspberries.—Where not already done, the training of Raspberry canes should be completed as soon as possible. If the canes chance to be weakly, it is often an advantage to renew the plantation in a different part of the garden, for not only can heavier crops be expected from fresh soil, but the fruits are much finer. In the forking over of old plantations, care must be taken not to disturb the roots. Afterwards the surface should be mulched with short, well-rotted manure.

Damsons.—If these useful fruits are not plentiful in the garden, a good plan is to plant a number of trees in different parts of the pleasure grounds. Here, when left to grow at will, they flourish exceedingly well, and an abundance of fruit may be gathered in autumn.

The Flower Garden.

Fine Effects.—In many gardens formal bedding is a thing of the past, but there are still many favourites for which a place must be found, more particularly among the sweet-smelling sorts; but undoubtedly the bolder style of gardening suits many places much better. Where the garden is large and the surroundings imposing, much interesting planting may be attempted in the way of hardy plants and shrubs. A large bed of Gynerium argenteum, with a margin of the dwarf G. Bertinii, intermingled with Torch Lilies, has a striking effect; while beds of Erica carnea and its varieties make a splendid carpet for Madonna Lilies or Gladioli which come up later in the season. Many other charming effects may be obtained by a little forethought in the use of hardy plants in the flower garden; while the saving of labour is no small consideration where depleted staffs are only too common.

Pruning and Tying Climbers.—Many of the finer kinds of climbers and wall plants will now require attention. The Buddleia family take kindly to severe pruning, and it is marvellous the number of strong, beautiful flower-spikes a young plant throws out in one season. The variety magnifica well deserves its name; with us it flowers about three weeks later than variabilis. Actinidia chinensis and A. polygama are both strong growers, and should be kept tied in according to space. Solanum crispum on the wall is spurred back yearly, and never fails to yield a wealth of blossom. Cratægus Lælandii is simply kept trim by cutting away the heavier shoots so that it is seen in all its glory of berry in the autumn. Coronilla Emerus ought to be judiciously thinned, as it is inclined to grow thickly.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Goodham, Kilmarnock.

EARLY POTATOES

HINTS TO INTENDING PLANTERS.

EARLY Potatoes are likely to be more highly valued than ever during the present year, and where the soil is of a very light nature and sheltered from the coldest wind, planting will soon be engaging the attention of all who desire to lift fair crops early in June. Readers lacking the experience of previous years to guide them, and who up till now have delayed the purchase of seed, should find the publication of the following both interesting and useful; and to make this of greater value, I may add that the soil upon which the tubers were planted was of a very light nature, and for several years previously had been a Strawberry bed.

Variety.	*Weight of Seed.*	*Weight of Crop.*	*Tubers.*
	oz.	*lb.*	
Midlothian Early	18	11¾	77
May Queen	14	10½	107
Duke of York	13	10	75
Myatt's Ashleaf	16	10¾	160
Ringleader	12	7½	113
Milecross Early	16	12½	91
Witch Hill Seedling	14	9¼	125
Mark's Tey	10	7	80
Dobbie's No. 5	16	6	97
J. Bull	14	5	88
First Crop	12	7	122
Alpha	14	9¼	90

The first mentioned has given us tubers greatly in advance of this weight, and appears to do well on soils of all descriptions. Yellow flesh.

May Queen is a grand white kidney, producing very large tubers when planted on rich ground.

Duke of York.—Much like the first named, and not wanted if that is planted.

Myatt's Ashleaf.—As the results show, this old favourite is by no means played out; but owing to its more straggling growth requires more room than later introductions.

Ringleader.—One of the very best where early tubers of good table quality are the first consideration.

Milecross Early.—A strong grower and must be allowed more room than it is usual to give the first earlies.

Witch Hill Seedling.—A splendid variety in every way.

Mark's Tey.—An ideal "round" tuber of good quality.

Dobbie's No. 5.—Dwarf grower; of excellent shape.

J. Bull.—In full flower at a foot high; tubers very small.

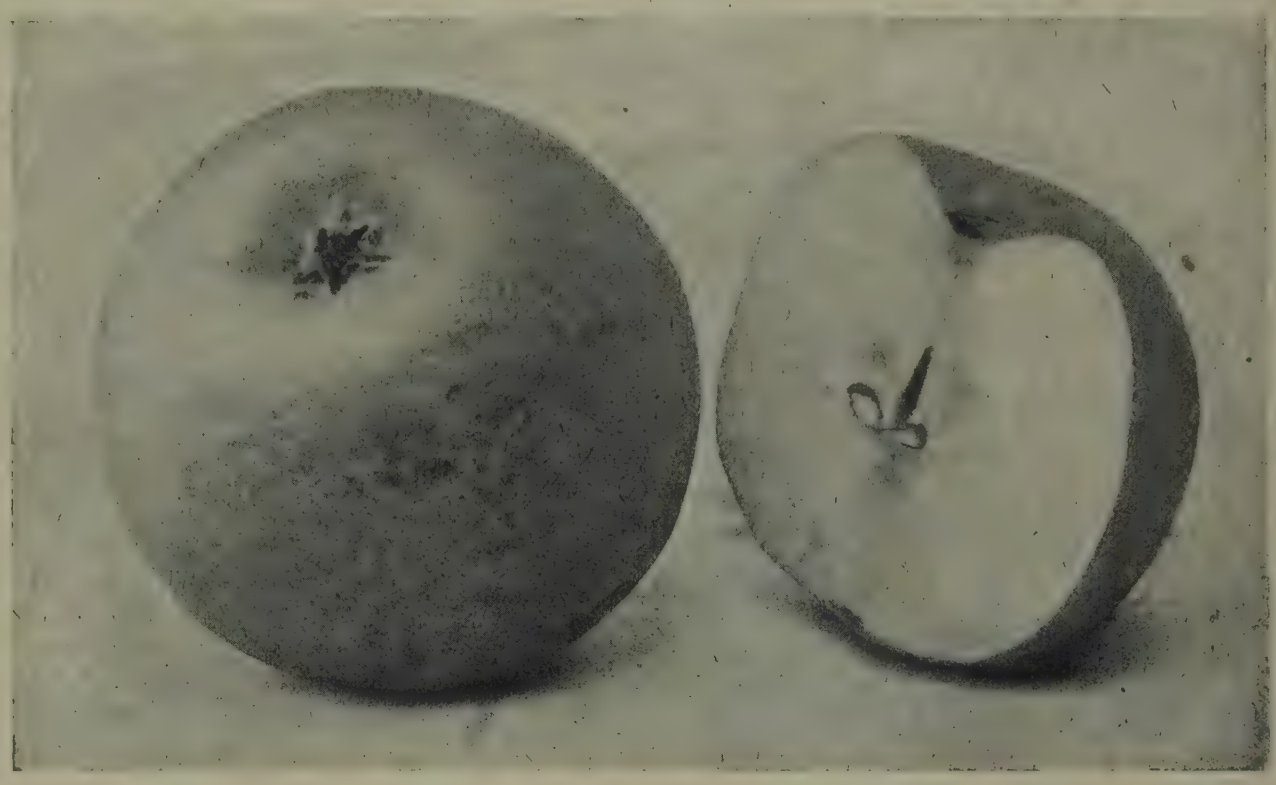
First Crop.—Evidently requires a strong soil to do really well.

Alpha.—Very dwarf; clear skin and of splendid quality; one which does exceptionally well with us each year. F. R. CASTLE.

APPLE ORLEANS REINETTE

IN the search for new fruits there is always a danger that the old ones will be forgotten, and the Apple under consideration is a good example of this. It is remarkable that a fruit of such fine quality should have taken so long to find its way into this country. It was first recorded in Diel's famous work (1799), but it does not seem to have ever been in great favour on the Continent, if one may judge by the scanty references in the literature of the past century. It came into the possession of my firm as a rogue or mixture in another variety from France, and was named Winter Ribston temporarily, and this name is quite descriptive. However, now the correct name has been ascertained, this must be dropped.

In growth and appearance it greatly resembles Blenheim Orange, and it might be termed a half-way house between that Apple and a Ribston Pippin. A good, though not a great cropper, it very seldom fails to give a return, and the fruits are ready to use in December and keep till the end of February. With Claygate Pearmain I consider it the best Apple at the present season, and even after a dull and cold summer like the past it is of good flavour, though, like all the Reinettes, it requires a warm autumn to finish it well. A strong grower, it makes a large pyramid, and is also very suitable for a standard. It spurs well as a cordon, and last year bore with me on two year old plants in the nursery rows. To my mind it will find a place in the dozen best dessert Apples before long, and I fancy any Apple lover will not regret having added it to his collection. E. A. BUNYARD.



ORLEANS REINETTE A WINTER APPLE OF RICH FLAVOUR.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SEA PINK (*A. de G.-V.*).—"Sea Pink," "Cushion Pink" and "Cliff Rose" are some of the many popular names of the Thrift, the Latin name of which is Armeria maritima. The plant is not a "Pink" and not even remotely related to that family of plants, and probably that part of the name is due to the colour of its flowers. Nor is the plant an annual: rather is it one of the hardiest and sturdiest of perennials in common use in this country, often enough as an edging to walks and flower borders. The flowers are pink-coloured and produced in roundish heads on stems 6 inches to 8 inches high. Individually the flowers are quite small. As a free-growing subject it has its uses, but could hardly be described as a "fine flower," though a large, well-cultivated patch of it in bloom is attractive. Among hardy perennials to-day, however, it could only rank as a third-rate subject. Seeds may be obtained, though plants would be best to start with.

KITCHEN GARDEN.

PREPARING GROUND FOR POTATOES (*Mrs. H. A. B.*)—In reply to your enquiry *re* the cultivation of a piece of ground that has been put down for Brassicas and is now to be planted with Potatoes, we advise you to work on the following plan: The ground should be deeply dug or bastard-trenched without delay. Ground lime or quicklime should then be scattered over the surface of the freshly dug ground. The planting should not be done until March, but the seed Potatoes should be sprouted in a light place where they are free from frost. Yes; it is a mistake to apply farmyard manure and lime at the same time, but if you put the lime on during this month the well-decayed farmyard manure may be worked into the ground prior to planting. Wood-ashes and soot may be used with advantage at the time of planting. If the ground is treated in this way, you ought to get a crop in the proportion of about ten tons to the acre.

PLANTING A FLOWER BORDER WITH VEGETABLES (*W. C.*).—Such a border should give you a fair return of vegetables and salads in the course of the summer and autumn. In the first place (if you must have the best return possible), you should have the border immediately manured generously and dug deeply. Single cordon trees of Gooseberries and Red and White Currants could then be planted at the foot of the wall, and trained to it and the wire-netting. They should be planted a foot apart. These would occupy but a very small part of the border, and would give good returns in fruit. Although the border is comparatively narrow, we think it would be better to arrange the rows of vegetables cross-ways, as you suggest; they would be handier for hoeing and keeping the ground clean. A few Broad Beans may be sown now, and Parsnips, early Peas, Lettuce and Spinach at the end of next month. Early in March a few early Potatoes could be planted, also Short Horn Carrots, more Spinach, Lettuce and Peas. Sow a few Lettuce seeds every fortnight or so, so that you may always have young plants by you with which to plant the ground as crops are cleared off. Veitch's Golden Queen Cabbage Lettuce is a fine variety, and Veitch's Superb White Cos is also excellent.

MISCELLANEOUS.

KAINIT AND SULPHATE OF POTASH (*Beaker*).—No bulk of kainit or sulphate of potash has been offered on any of the manure markets for a considerable time, and we know of no stock of either. Kainit is more of a curiosity in this country at present than anything else, and the price of sulphate of potash is prohibitive. We do not know what is the source of the potash in proprietary manures at present, but possibly burnt vegetable refuse or wood-ashes or night soil is used. The ash of many plants, *e.g.*, Broom, contains almost a third of its weight of potash.

THE VALUE OF CHICKEN-MANURE (*M. H. C.*).—Chicken-manure, if it has been kept in a dry place, is useful for almost any kind of plant, but must be mixed with soil and not used too freely, as it is many times stronger than stable manure. It may be used for Rose trees. It should, however, be borne in mind that stable manure is useful not only for the food substances it contains, but for the beneficial effect it has on the texture of the soil. Carrots, Beets and Parsnips should follow crops for which manure had been applied, and should not, as a rule, themselves be manured.

APPLYING LIME AND ARTIFICIAL MANURES (*W. L.*).—The lime is best dusted about the plants it is intended to protect. Soot may be used for the same purpose. For Potatoes, in addition to farmyard manure, provided lime is present in your soil, sulphate of ammonia and superphosphate will be the best manures. Both are British products and can be obtained. They are to be used just before Potato planting, and may be mixed at

the rate of two parts of the sulphate of ammonia to five parts of the superphosphate, and applied at the rate of 2½oz. to 3oz. of the mixture to the square yard. If, however, the soil is a heavy one, the best thing to do would be to apply basic slag at once, using 3½oz. to 4oz. to the square yard, and the sulphate of ammonia at the rate of half an ounce to three-quarters of an ounce to the square yard just before planting-time. Sulphate of ammonia and basic slag, or sulphate of ammonia and lime, must not be mixed before application.

OBITUARY

WILLIAM HOULISTON.

WE have to record the death on January 9, after a long and painful illness, of Mr. William Houliston, who has for several years been curator of the Observatory Gardens and Museum, Maxwelltown. Mr. Houliston came of a family of gardeners, and his father was well known as gardener at Carruchan, Kirkcudbrightshire, for many years until his death. Several of his family followed the same calling, and William, who was for some time in that great school for Scottish gardeners—Drumlanrig—was known as a good craftsman and was held in high esteem.

After filling a variety of good appointments, Mr. William Houliston took over the charge of the gardens at Arbigland, Kirkcudbrightshire—then the property of the late Colonel C. E. Blackett—on the retirement of the late Mr. Black. He remained at Arbigland for a considerable number of years, and during his management the gardens were noted for their beauty and productiveness. He also took an active part in the district in the promotion of horticultural movements, and was recognised as a most competent and conscientious judge at flower shows. On his retirement from Arbigland he was appointed by the Dumfries and Maxwelltown Astronomical Society as curator of the gardens and museum at their Observatory, Maxwelltown. He worked a great reformation there, and the gardens and museum assumed a character of beauty they had never before attained.

Mr. Houliston, who was sixty-eight years of age, is survived by Mrs. Houliston and a large family. By his death the district has lost a good gardener and a genial and highly respected member of the community. The funeral, which took place at Troqueer Churchyard on January 11, was largely attended.

THE LATE CAPT. DAUBUZ AND HIS GARDEN

I HAVE waited in vain to see any notice of the death of Captain Daubuz of Ryde, Isle of Wight, who recently passed away at an advanced age. He was a true gardener, one who delighted in conquering adverse climatic conditions, and who was always kind enough to show his garden to any real enthusiast.

It was in his pretty garden that I first began to "sit up and take notice" of rare flowering shrubs and plants—rare, at least, at the time I visited him, a good many years ago. Here I saw many plants flourishing outdoors which even now are rarely seen. Among them was Desfontainea spinosa, showing a wealth of red and orange blossoms. Lapagerias, both red and white, were flowering profusely on a wall (and here I first learnt the value of zinc collars as protection against slugs). A large-flowered Honeysuckle, with a gigantic yellow blossom and called, I think, Hildebrandiana, was also there. The lovely little Sollya heterophylla, the Australian Bluebell, was blossoming in great beauty, completely covering an old wall. Even Myosotidium nobile was being coaxed to grow in shell and seaweed brought from the mouth of a river, a veritable achievement in his hot, dry garden. The lovely Plumbago Larpentæ was brilliant on the rocky margin of a small pool, and although I had previously only seen it flourishing in September at the Italian Lakes, where it was largely used for bedding out, I at once followed Captain Daubuz' example and planted this on raised rockwork here in Berkshire. I have now grown it for many years in different aspects, and it invariably flowers profusely, the contrast between the cobalt blue of the flowers and the scarlet of the autumnal foliage being very striking. This plant, curiously enough, does very well at Brookline, Mass., and although the frost is most severe there, it is never killed in winter. In this garden, too, I had my first introduction to Commelina cœlestis, which was grown among beds of Iris for successional blooming. My great regret is that I never had another opportunity of seeing this garden in early summer when the wonderful flowering shrubs and Roses were at their best.

ALICE MARTINEAU.

Dr. W. Botting Hemsley, F.R.S.—Our esteemed contributor, who we are sorry to say has been unwell during recent months, has now left Strawberry Hill to take up permanent residence at Kew Lodge, St. Peter's Road, Broadstairs. With the benefit of the sea air we hope that he may soon be restored to good health.

The Work of War Agricultural Committees.—The President of the Board of Agriculture and Fisheries is receiving a very large number of offers of assistance in connection with his schemes for increased food production. We are asked to state that the carrying out of the schemes will be entrusted to War Agricultural Committees in each county, and Mr. Prothero suggests, therefore, that all persons who desire to offer their services should communicate with the Secretary of the local War Agricultural Committee at the offices of the County Council.

Organiser for the Land Settlement Scheme for Ex-Service Men.—Captain Charles Bathurst, M.P., has, on becoming Parliamentary Secretary to the Ministry of Food, relinquished the post of Organiser of the Land Settlement Scheme for Ex-Service Men which he has held under the Board of Agriculture and Fisheries in an honorary capacity for the last eight months. The duties have been taken over by Sir Richard Winfrey, M.P., Parliamentary Secretary to the Board of Agriculture and Fisheries.

Produce of Crops.—From the official Agricultural Returns of England and Wales, 1916, we note that the average yield of Potatoes in England and Wales is estimated at 5·85 tons per acre, or just one-third of a ton below the yield of 1915 and the ten years' average. With a somewhat reduced acreage the total production of 2,500,000 tons is about 350,000 tons less than last year, but only 180,000 tons below the average. Turnips and Swedes have produced almost 13,000,000 tons, which is nearly 1,200,000 tons more than in 1915. The yield per acre (13·93 tons) is about 1½ tons more than in 1915, four-fifths of a ton above the average, and the best yield since 1910. Mangolds, on a considerably reduced acreage, gave about 500,000 tons less than last year; but the yield per acre is also the largest since 1910, being half a ton per acre better than last year and one-fifth of a ton above the average.

Late Chrysanthemums at Springburn Park, Glasgow.—Visiting some of the Glasgow parks recently, a visitor was surprised to find how well the Chrysanthemums have stood this season. The Chrysanthemum-house at Springburn, for example, has been very delightful, and as late as mid-January it was bright and attractive. Both large-flowered plants and others were to be seen, but the bush-grown ones appealed most to many. We noted Niveus and Margot as about the best of these, and they are evidently varieties which suit the conditions well. Mr. Thompson always manages to have something good to show in this attractive park and winter garden.

SOCIETIES

NATIONAL ROSE SOCIETY.

THERE was an excellent gathering of rosarians from all parts of the country at the fortieth annual meeting of the above society, held in the Hotel Windsor, Westminster, on January 16. Mr. E. J. Holland presided.

The annual meeting was preceded by a special general meeting for the purpose of adopting new rules governing the constitution of the society. The proposed rules were all passed as printed and distributed, with the exception of a slight modification as to the status of the auditors. We are delighted to report the satisfactory progress made by the society at such a time as the present, and it was a great pleasure to listen to Mr. Shea's address, in which he referred to the "splendid financial position" and "to the one great asset of the society, comparable to what painters described as the under colour, that is, the intense love for the Rose to be found in all parts of the country."

Many touching tributes were paid to the memory of the late president, Mr. Edward Mawley, who had been connected with the society for forty years and had endeared himself to all with whom he came in contact. The chairman announced that when happier times came round, the Council hope to raise a suitable memorial to the memory of Mr. Mawley. Tributes were also paid to the memory of the late Mr. H. E. Molyneux, the versatile writer on new Roses.

EXTRACT FROM THE REPORT.

"The Council have again to report that the work of the society has gone on successfully during the past year, and in view of the adverse war conditions the position of the society must be regarded as highly satisfactory.

THE SHOWS.

Three shows have been held—the spring show in the Horticultural Hall on April 14, the summer show at the Royal Botanic Gardens on June 30, and the autumn show on September 19 in the Horticultural Hall. Weather conditions prior to the summer and autumn shows were not favourable, and the exhibits were hardly up to the usual standard either in number or quality; nevertheless, what must be regarded as fine collections of blooms were brought together on both occasions.

THE PUBLICATIONS.

The 'Rose Annual' was sent to members in March last, and the new combined 'Official List of Roses and Pruning Book,' a work which it is hoped will prove of great assistance to members, is nearing completion. The thanks of the Council are again due to the members of the publications committee, who have devoted so much time and care to this important branch of the society's work.

MEMBERSHIP.

During the year no fewer than 326 new members have joined the society. After allowing for losses by death and resignation, the total number of members is now 4,837.

FINANCE.

The total receipts for the past year, including a balance of £238 7s. 7d brought forward, amounted to £3,323 12s. 4d. and the expenditure to £3,220 12s. 3d., leaving a balance of £103 0s. 1d."

After the adoption of the report, the meeting proceeded with the election of officers. Mr. E. J. Holland was elected president; Mr. H. R. Darlington, vice-president; Mr. S. A. R. Preston-Hillary, hon. treasurer; Mr. Courtney Page, hon. secretary; and Mr. Charles Brannan, auditor. The vice-presidents and Council were also appointed, the whole of the names as issued in the balloting list being elected. Since the annual general meeting it has been decided to abandon the spring show.

ROYAL HORTICULTURAL SOCIETY.

The first meeting of the year, held at the old Drill Hall, Buckingham Gate, on the 16th inst., was reminiscent of many that preceded it prior to the society establishing a home for itself at Vincent Square. The exhibition, despite its small size, was represented in its several departments—fruit, flowers and vegetables—hence not without interest or variety. Orchids from Tunbridge Wells and Hayward's Heath were very good, a collection of Apples from Crawley and excellent vegetables from Reading being, however, among the chief attractions.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. R. C. Notcutt, J. Green, W. J. Bean, G. Reuthe, J Heal, R. Hooper Pearson, J. F. McLeod, A. Turner, J Hudson, Charles E. Pearson, W. Howe, J. Jennings, J. Dickson, C. Dixon, H. J. Jones, H. Cowley, W. P. Thomson, E. H. Jenkins, G. Paul and W. H. Page.

The Carnation exhibit from Messrs. Allwood Brothers, Hayward's Heath, was well displayed and embraced several varieties of excellent colour for the season of the year. Notable among these was Salmon Enchantress, which was quite exceptional and good. Others of note included Enchantress Supreme, Benora (white ground fancy with scarlet markings), Wivelsfield White, White May Day, Bishton Wonder and Mary Allwood. Some interesting seedling varieties of Perpetual-flowering Malmaisons were also on view.

Messrs. H. Cannell and Sons, Eynsford, Kent, contributed an exceptionally bright group of winter-flowering Zonal Pelargoniums, which at this season of the year demonstiate their value to the full. Some two dozen varieties were staged, the more distinct including Golden Lion (orange salmon), Sir Thomas Hanbury (crimson), Countess of Radnor (cerise), Mrs. J. Lawson (a beautiful rose pink, one of the best in the collection), Louis Chauvin (blotched salmon) and Lady Warwick (white, with picotee edge of pink).

From Messrs. Stuart Low and Co., Enfield, came well-grown plants of Coleus thyrsoideus, a blue-flowered subject of more than ordinary merit at this season, together with Cyclamen and well-flowered examples of the new hybrid Begonia Mrs. J. A. Peterson, whose coppery leaves and brilliant carmine flowers render it most attractive. Carnations, too, were staged in considerable variety, including Red Ensign (distinct scarlet), Eileen (a novelty of rich salmon pink tone), Pink Sensation and Countess of Wilton (a heliotrope and crimson fancy which is both fantastic and distinct). Mrs. Myles Kennedy, a Perpetual-flowering Malmaison, was also in good form; it promises well.

The St. George's Nursery Company, Harlington, Middlesex, showed a basket of the new Cyclamen Crimson St. George, whose handsomely marbled foliage alone is a great attraction. (See "New and Rare Plants," page 34.)

Messrs. G. Bunyard and Co., Maidstone, contributed sprays of the beautiful winter-flowering Erlangea tomentosa, whose chief attraction is the rosy mauve colour of its flowers. Valuable in the greenhouse at this time, it is said to be much favoured by florists owing to its unique colour.

From the Hon. Vicary Gibbs, Elstree (gardener, Mr. E. Beckett), came a very remarkable specimen, 8 feet to 9 feet high, of Corylus Avellana contorta, a curious sport of the common Hazel. (See "New and Rare Plants.") A particularly good pyramidal specimen of Ilex Aquifolium Golden Prince, a golden sport of the common Holly, which originated at Elstree, was also shown. Eight feet or more high and with a base diameter of 6 feet, it was well furnished throughout.

FRUIT AND VEGETABLE COMMITTEE.

Present: J. Cheal, Esq. (chairman), the Rev. W. Wilks, and Messrs. Owen Thomas, F. Perkins, E. A. Bunyard, James Gibson, F. Jordan, W. E. Humphreys, A. Bullock, A. R. Allan, P. D. Tuckett, W. H. Divers, E. Beckett, W. Bates and A. Grubb.

From Messrs. J. Cheal and Sons, Crawley, came a collection of some sixty or more dishes of Apples, the whole being in splendid condition. Blenheim Orange, Golden Noble, Bramley's Seedling, Wellington, Charles Ross, Reinette du Canada, Sandringham, Chelmsford Wonder, Alfriston (quite a remarkable dish of this late cooking sort), Lord Derby, Newton Wonder, Allington Pippin and Cox's Orange Pippin were among the best. A silver-gilt Knightian medal was deservedly awarded.

The Hon. Vicary Gibbs, Elstree (gardener, Mr. E. Beckett), sent several dishes of Onion Autumn Triumph and one of Tomato Golden Sunrise. The Onions were of superb quality and very solid.

Messrs. Sutton and Sons, Reading, had one of their admirably displayed exhibits of vegetables, including forced Carrots, Brussels Sprout Dwarf Gem, Broccoli Christmas White (curds of model character being shown), together with excellent Savoys, Couve Tronchuda or Portugal Cabbage, and excellent Kales, all valuable at the present time.

ORCHID COMMITTEE.

Present: Sir Jeremiah Colman (chairman), Sir Harry J. Veitch, the Rev. John Crombleholme, and Messrs. J. O'Brien, W. Bolton, R. A. Rolfe, J. Wilson Potter, Pantia Ralli, F. J. Hanbury, T. Armstrong, A. McBean, J. E. Shill, J. Charlesworth, C. H. Curtis, W. H. White, S. W. Flory, R. Brooman White and C. J. Lucas.

Messrs. Sander and Sons, St. Albans, had the pure white Cattleya Mary Sander, C. Snowflake, and a series of Cymbidiums which included C. Doris, C. Alexander and C. Gottianum, all of pink ground shades with copious markings.

Messrs. Armstrong and Brown, Tunbridge Wells, contributed an excellent group and many novelties, some of the more important being Cypripedium Actæus langleyense, Odontioda Seymouriæ (very dark maroon), Cattleya Percivaliana alba, Odontioda Cupid (a fairy-like variety, rosy carmine), together with some lovely Odontoglossums and Miltonias. Silver Flora medal.

SCOTTISH HORTICULTURAL ASSOCIATION.

THE annual general meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on January 17. The Marquis of Linlithgow was re-elected honorary president. Mr. John Phillips, Granton Road Nursery, Edinburgh, was appointed president in place of Mr. W. G. Pirie, who retires by rotation. Miss Burton and Mr. J. W. M'Hattie were elected vice-presidents in the places of Mr. W. Smale and Mr. J. Hay, retiring by rotation. The vacancies on the Council caused by the retirement in rotation of Messrs. J. Alexander, J. W. M'Hattie, F. M. Urquhart, W. H. Massie, R. T. Naismith, W. G. Michie and Miss Burton were filled by the appointment of Messrs. W. Crighton, R. Fife, W. Galloway, A. Innes, D. Macdonald, G. M. Taylor and Miss Todd. Mr. A. D. Richardson was reappointed secretary and treasurer.

WARGRAVE AND DISTRICT GARDENERS' ASSOCIATION.

THE last meeting of the winter session took place recently, and although the number of members was not large, there was much enthusiasm shown in the discussion which followed an interesting and practical paper on "Wall Fruit," given by Mr. J. Stephens, gardener at Culham Court, Henley-on-Thames. He dwelt on the preparation of the soil in the borders, planting, training, pruning, tying in, watering, feeding, disbudding, sheltering in bad weather, the enemies and pests of the several trees, remedies for their eradication, and concluded with lists of those trees which do well in this district. A vote of thanks was carried with acclamation at the close, and Mr. Stephens promised to continue the subject at a future meeting. Nominations of officers, &c., were made and the meeting closed.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

THE annual general meeting of the Royal Caledonian Horticultural Society was held in Dowell's Rooms, Edinburgh, on January 10. The annual report of the Council and the statement of accounts for the year ending November 30, 1916, were submitted by the secretary and treasurer, Mr. Donald Mackenzie. The report was generally of a satisfactory character, under the abnormal circumstances and no shows being held during the year. The income account exhibits an income of £249 12s. 2d. and an expenditure of £213 5s. 5d., leaving an excess of income of £36 6s. 9d. The capital account shows a balance of £496 13s. The reconcilement of balances shows that the increase of funds during the year amounted to £17 3s. 9d. The Neill Prize Fund has a capital of £450, taking the Clyde Navigation Funded Debt Bond at cost, but the auditor again points out that the £400 Clyde Navigation Funded Debt is not a trust investment.

The election of office-bearers was proceeded with. The Right Hon. Lord Elphinstone was re-elected president; Mr Henry Methven was elected vice-president; and Mr. Robert Fife, of Messrs. Dobbie and Co., Edinburgh; Mr. William Pirie, Dalhousie Estate, Bonnyrigg; and Mr. John Highgate, gardener to the Marquis of Linlithgow, Hopetoun House Gardens, were appointed councillors

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday, the 15th inst., the executive committee of this society held a meeting at Carr's Restaurant, Strand, Mr. Thomas Bevan presiding. The minutes and correspondence relating to the show for 1917 having been disposed of, the secretary, Mr Witty, then presented the draft balance-sheet, accounts and annual report for 1916. From the latter, which is perhaps briefer than usual, we gathered that the recent show was, under all the difficult circumstances, very satisfactory, and that during the past season there was not one of the old type of incurved Chrysanthemums staged before the floral committee, which is a most unique experience. Under the heading of "educational meetings" mention was made of the lectures last spring by Mr. Percy Cragg and Dr. Keeble, and also the one by Mr. Harman Payne at the Japan Society last November, when Sir Albert Rollit took the chair there, supported by a number of the members of the National Chrysanthemum Society. Regarding the 1917 show of the society, details are not yet finally settled; therefore the new schedule must remain in abeyance for the time being. The annual meeting is fixed for February 5 next at Carr's Restaurant at 6 p.m. The executive committee meeting following that gathering has been arranged for the 19th prox.

Before the meeting closed, Mr. Harman Payne made a reference to the loss the National Chrysanthemum Society had sustained by the death of Mr. George Schneider on the 2nd inst. He was president of the French Horticultural Society of London, and the two societies had long been in close, friendly relations.

TRADE NOTE

A SALE OF FRUIT TREES.

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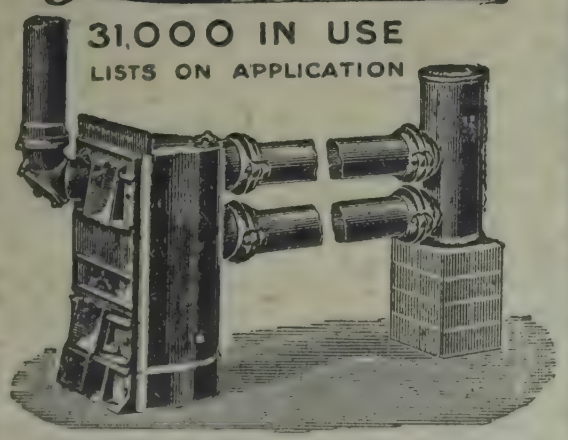

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ORCHARD AND WOODLAND

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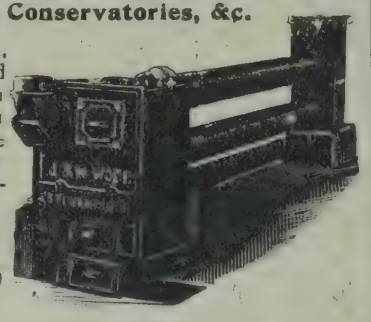

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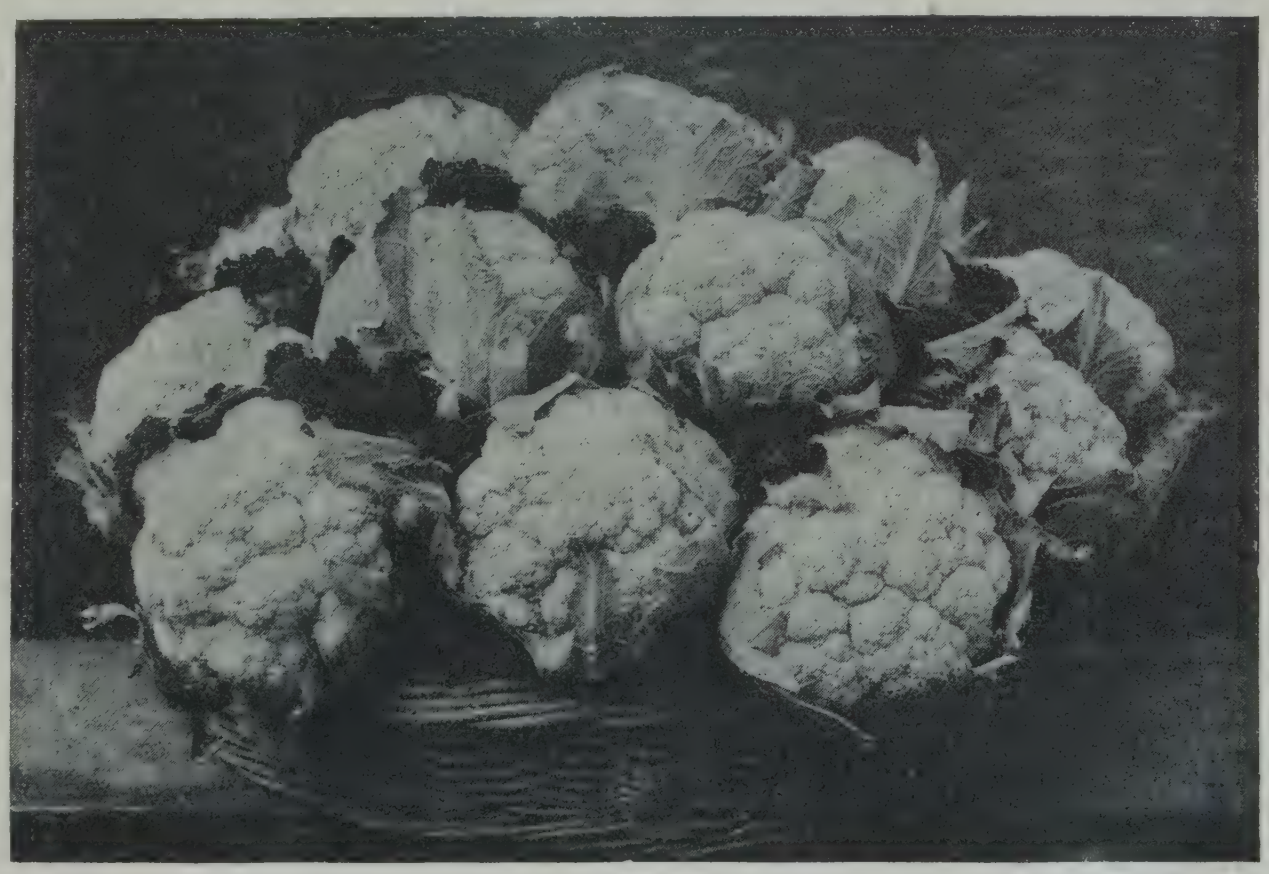
THE GARDEN.

No. 2359.—Vol. LXXXI. February 3, 1917.

NOTES OF THE WEEK

THERE is an urgent call for workers on the land, and we understand that Mr. Neville Chamberlain, the new Director-General of National Service, will shortly make an appeal for the luntary enrolment of men between the ages of ghteen and sixty as recruits to a National Service rps, whose members would act in civil employ-ent as substitutes for men of military age who uld not otherwise be released. The scheme will ovide for labour in essential industries, such as unition making and employment on the land, d it is the latter with which we are most con-rned. In most gardens e increased produc-on of food supplies is ceiving serious atten-on, but there is still a eat deal of labour nployed—for example, pleasure grounds and edding out—which in e present grave cir-mstances should be t to better account. far, arrangements are eing made to enrol en only as whole-time orkers; a scheme for e enrolment of women ill come later. Men ill be employed, as far possible, in the dis-icts in which they side. They will re-ive the standard rate wages fixed for their cupation, with a sub stence allowance of s. 6d. a week if not nployed in the district which they reside.

Increasing the Supply of Seed Potatoes.—In ew of the difficulty which some people may ex-erience in obtaining seed Potatoes for planting, Dr. rederick Keeble, F.R.S., Director of the Royal orticultural Society's Gardens, draws attention the fact that a very considerable increase in e supply of seed could be obtained by the follow-g simple procedure: From each of a batch of otatoes brought into the kitchen for cooking, t off, before peeling, a piece from the "rose" d, that is, the end where most "eyes" are. ach piece should weigh not less than 1½oz. roperly treated, this piece, if planted, will oduce a good plant and bear a fair crop.



THE HARDY BROCCOLI CHRISTMAS WHITE.

The Proper Treatment.—For this two things are necessary: (1) Prevention of shrivelling, and (2) proper sprouting. To prevent shrivelling, Dr. Keeble recommends dusting over the cut surface of the piece either a little dry powdery plaster of Paris, or dry slaked lime, or finely powdered charcoal. For proper sprouting, the pieces may be stood in a shallow box resting on a little leaf-mould, cocoanut fibre, or sand. The box should be kept in the window of a cool but frost-proof room. By planting-time each piece should have produced sprouts from half an inch to an inch in length, and may be planted in the same way as seed Potatoes. It should not be difficult to organise in each locality the preparation and collection of large numbers of sets, and it is doubtful whether householders who sacrificed the "rose" ends of their Potatoes would lose more than they do at present by the wasteful method of peeling Potatoes before cooking.

Revised Potato Prices.—The very remarkable Order of the Government fixing the maximum price for 1917 Potatoes at 115s. to 130s. per ton has been followed by an Order converting the maximum into a minimum price. This decision is, naturally, welcomed by most Potato-growers, but after the first Order some growers decided to grow cereals in the place of Potatoes, and ordered seed and manure in consequence. The strange thing is that an Order of such far-reaching effects should have been issued without first of all carefully considering its effect upon the Potato-growing industry.

White Broccoli.—Not the least important point in the admirable article on "White Broccoli and their Cultivation" on page 43 of this issue is the stress the writer puts on the rolling and re-rolling of the land before planting out, so that the road-like solidity of the ground necessitates planting with an iron bar. The present snap of cold weather will prove the wisdom of this precaution, for plants in loose, rich soil could never withstand the rigours of hard weather. The excellent variety Christmas White, illustrated on this page, comes in any time between December and March.

Rhododendron præcox Eaten by Hares.—In a recent issue of the *Gardeners' Chronicle* Sir Herbert Maxwell writes as follows from his garden in the extreme South-West of Scotland: "Rhododendrons, like everything el e, are la'e this season. Only R. dahuricum has flowered as yet; R. parvifl rum will be next, I think unless R. Nobleanum makes a spurt. R. præcox does not often open blooms before February. I have lately made the unwelcome discovery that this beautiful hybrid does not share the immunity from attack by hares and rabbits which distinguishes most species of this genus. A dozen plants which we put out in the woods in the autumn of 1915 were eaten bare in no time, although the winter was exceedingly mild, and although hares are very scarce and rabbits not very numerous."

*** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

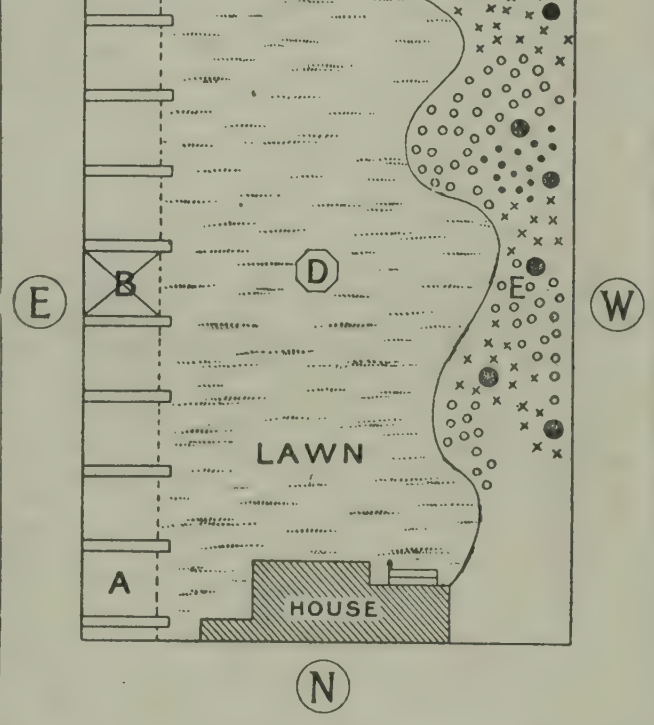
(The Editor is not responsible for the opinions expressed by correspondents.)

Christmas Potatoes.—My Christmas (1916) Potatoes have again been a success, and from experience I find it will be better to plant the tubers not later than the middle of July to August, and deeper into the soil than what may be usual. Protection against early frost by covering with stable manure or plenty of straw is all that is necessary. From 7lb. of each of the following seed Potatoes (cut in half) I obtained: Dunnottar, 35lb.; Carisbrooke, 42lb.; Royal Kidney, 70lb., and which would have increased both in size and quantity but for the inclemency of the weather during the latter part of the year. All the Potatoes were absolutely free from disease. For the coming season use last year's seed.—JOSEPH R. HOLMES.

A Late Season.—What William Howitt describes as "a bitter, scythe-edged perforating wind" has been blowing from the east for a week, and a friend from the United States of America who knows Alaska says that he has not felt a wind like it since he was there. I have not yet cut a Christmas Rose or even seen a Winter Aconite or Snowdrop. On January 22, 1916, the following were in flower here: Christmas Rose, Winter Jasmine, Daphne Mezereum, Erica herbacea (carnea) and alba, Cyclamen ibericum, Crocus Imperati, C. chrysanthus, C. biflorus Weldeni, C. Tommasinianus, C. Susianus, Cydonia grandiflora rosea, Corydalis angustifolia, Iris Danfordiæ, Eranthis cilicica, Saxifraga apiculata, Garrya elliptica, Rhododendron præcox and Snowdrops. To-day (January 28) none of these plants is in bloom, save the Winter Jasmine (always the bravest plant in the garden) and one solitary Cyclamen flower. Everything in the garden looks the picture of misery, and I fear much damage has been done by this unusually prolonged frosty wind.—ARTHUR R. GOODWIN.

Increasing the Production of Food.—A good many readers of THE GARDEN are growing food, but how many thousands of women there are who are doing nothing in this direction. Women, as well as disabled soldiers, could be employed in nurseries and taught how to work by the head-gardener or foreman. They could also take up and work allotments during the spare time (so much of which they often have). There is plenty of work to do, plenty of food that wants growing, and plenty of women to grow it if they would only realise the necessity of doing their share. The women readers of THE GARDEN who grow food will support me when I say that the idea that women cannot, or should not, do gardening is foolish in the extreme. And there are our children, or, as they prefer to be called, our young people. There are in England many thousands of boys and girls who are being educated at secondary day or boarding schools, and there is not the slightest reason why they should not help to grow food (which, by the way, they have such large, healthy appetites for eating). The governors of these schools do not hesitate to buy or lease land for these children to play games on, so why should they make difficulties about getting land for food-growing If every possible man, woman and child will grow food, then prices will never again reach the extraordinary amounts they have done during the last three or four months.—E. T. ELLIS.

Plans of a Small Rose Garden.—I never had, I never could see any joy in, nor have any sympathy with, a villa garden. It always seemed to me but a sad reflection closely related to that most miserable of places, the west-end terrace of a large provincial town. Oh, heaven forbid that I should ever require to live in such a place, and to be found dead in one I would be ashamed! The entire occupation of these dwellers seems to be taken up in discussing their neighbours, their neighbours' curtains and their cooks. Praise be to the war, they have all but been bereft of this latter joy, owing to domestic difficulties. The husbands, on the other hand, are keen business men. A keen business man is, to my mind, the man who can best swindle his neighbour and, while approaching extremely close to, evade the clutches of the law; whose sole object is to make money and more money, which



"FORMAKIN'S" ALTERNATIVE GARDEN PLAN

A, *Pergola;* B, *Pergola with covered roof to keep rain off the seats—I would suggest the opening being a little wider, say,* 13 *feet from pole to pole;* C, *Entrance to kitchen garden;* D, *Sundial;* E, *Roses planted in groups of sorts and arranged as to colour and height, shrubs as background if you like—I would prefer Roses on poles dotted about;* ●, *Roses on poles;* o, ×, •, *Clumps of different kinds of Roses arranged as to colour and height.*

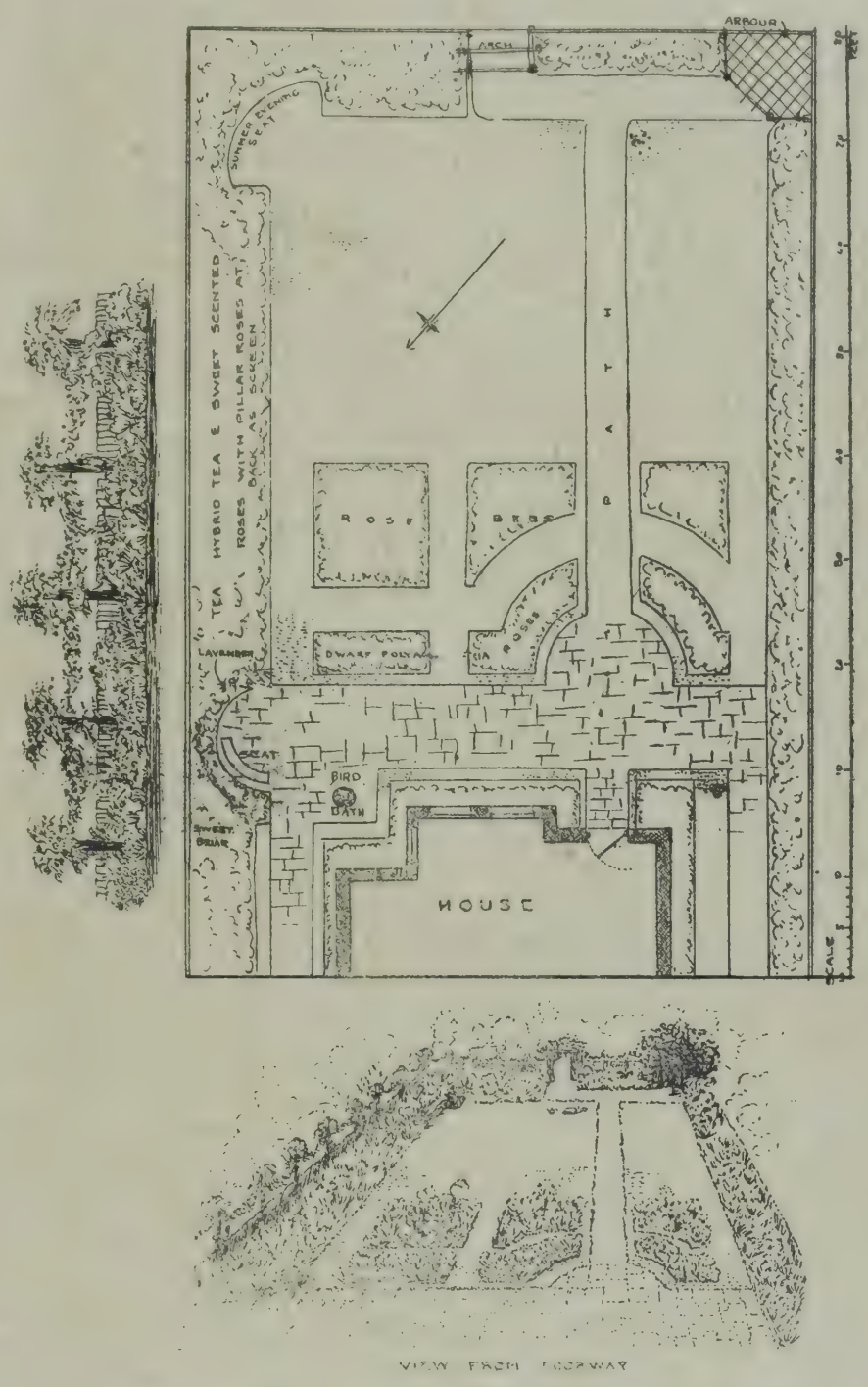
hobby, when carried to excess, as so often happens, simply means that he belongs to the money, not the money to him. I presume he never thinks about Saxifraga squarrosa or Gentiana verna, but there he sits plotting and planning, wrangling and racking his brain to reach a goal which he never can attain, for the accumulation of riches is like drinking sea-water—the more you drink the thirstier you become. I frankly acknowledge that lack of cash begets much misery; but, on the other hand, the accumulation of gear by no means produces happiness.

Well, what I am going to write about is to make a few comments on your articles of the 6th and 20th ult. on villa garden designing. How easy it is to criticise! I am sorry I do not think the first villa plan is very brainy, and the second—well, is it any better? I never could understand how any sane person could draw a plan without stating the aspect—north, south, east, or west I have therefore stated them to suit my sketch though a house built in the British Isles ought in my humble opinion, to always look south-east where possible. In the sketch in your issue of the 6th ult. I object to the extra labour in cutting the lawn round those ugly plots, and the useless narrow strip between the pergola and the shrubs The pergola itself really leads from nowhere to nowhere, while, seated in the circular corner seat all that can be seen of the Rose garden is a small portion of beds marked "5." I should imagine in a small plot of land the idea would be to make it look as large as possible. As to the sketch in your issue of the 20th, I presume the four Rose beds are surrounded with "chuckies" (pebbles). I never could see the beauty of chuckies anywhere except on the beach. Their only use in the garden, to my mind, is to throw them at the cats! I should think one would need to be of an extremely happy disposition indeed if they could be cheerful and possess themselves of a soul looking out on chuckies and four dreary plots, probably radiant with the aroma of manure for some four months of the year. I do not quite understand what the two little wings at the side mean. One seems like a Mushroom-bed—I just love Mushrooms. There is no reason that I can see for another chuckie walk down to point "A." Surely a stroll over the lawn would be much more pleasant and grass in a slab is always more restful than when cut up into little chips and strips. And why all this cutting of grass into those funny little squares round the proposed trellis-work of Roses at the sides?

In the enclosed sketch which I venture to suggest as an alternative—and though I do not think it perfection by any means, yet neither do I think it much worse than either of the others—it has the advantage that the lawn will be easier kept, that one side of the pergola is already made (I presume the garden is bounded by walls), that the pergola leads from the front of the house to the kitchen garden, and that from the seat in the centre, where the pergola poles might be 13 feet from centre to centre instead of 9 feet as in those at either side, the Roses can be pleasantly viewed. Looking on a garden in rain after a long spell of drought is one of the many joys of life to the enthusiastic gardener. Granted, it is of no use to the keen business man in the terrace, to whom it only conjures up in his morbid mind a walk with wet feet to his joy-house, the office. The grass would be better kept at least 18 inches off the poles, both for the benefit of the Roses and for easy cutting. I take it that the plot is surrounded by a wall—possibly a nasty coloured brick with glazed tiles on top. Oh heavens, cover them all with white and green variegated Ivy! Just this one kind of Ivy mark you! Use no others. Do not make a sampler of your garden walls. This white and green Ivy might also be used on the wall underneath the pergola which bounds one side of it I think the owner will agree with me that the effect is pleasing in winter and by no means out of place in summer. The view from the window will be restful, be it summer or winter. As I said at the outset of these notes, my sympathies do not lie with the villa gardener, but I sometimes wonder why the house is not put at the other end of the plot. It would surely be much more pleasant for the owner to wander through his garden on arriving home or leaving for town

He would also have the satisfaction of giving passers-by the pleasure of seeing his flowers and, to my mind, the exceeding joy of having a probably very ugly villa the better out of sight. I trust I have not hurt anyone's feelings, though I am not at all particular about the keen business man in the terrace; he will take a lot of hurting like the Hun, and killing like the cat!—FORMAKIN.

—— Like Mr. Morley Horder, I was very much surprised that you should illustrate a garden plan on the lines of the one given in your issue of January 6. I was equally surprised that he should offer as an alternative the one illustrated on page 20, January 20. His suggestion is certainly an improvement on the previous one, but as a satisfactory Rose garden plan is an utter failure for the following reasons: No scale being given with either plan, we are left to estimate what areas are allowed; but estimating from the width of door, windows and house generally, I assume the plot is, roughly, 80 feet by 60 feet. Now, apply these dimensions to his plan, and you will find that the little domino beds are exactly 3 feet wide and 7 feet long, hardly big enough to grow Violas, and utterly useless for Roses. The borders surrounding the plot are at some points no more than 2 feet 6 inches wide; and why the wretched little indentations a foot deep should have been introduced must puzzle many of your readers. Such trivial and absurd treatment of a border line is only creating trouble for the future. To cut the grass with a lawn-mower is only to risk smashing anything in the border every time, and in trimming the edge of the grass the indentations would soon lose their shape, and finally become nothing but a ragged and untidy edge. Nor can it be claimed that they add a single note of beauty to the garden. Certainly the best place for the arbour (presumably a place to sit in) is not over a path. Who would ever want to sit there? And if they did, it would scarcely be very convenient to others using the path. Another point: Why should the area be equally divided by the central path? Arranged as in the plan, one would take six paces from the door, turn sharply to the left, two paces forward, and right wheel. This would be irritating, and neither you nor I, Mr. Editor, would do it. We should walk straight on across the grass. I suggest in the accompanying plan another treatment, which is not by any means perfect, but is certainly much in advance of the previous two. The beds are large enough to grow any bedding Roses. The borders provide space for all the others, and I think the arrangement of pillar Roses my sketch suggests would prove better than treillage. The arbour would cover a shady seat and command a view of the garden. But surely no one would wish to devote a garden such as this entirely to Roses. To do so would be to have a bare, uninteresting spot for nearly six months in the year. It is quite possible in the area to develop a garden that will be "a garden of Roses, and Lilies fair on a lawn," "Crownèd Lilies standing near, Purple-spiked Lavender," Mignonette and Night-scented Stock near the evening seat, Sweet Jasmine and Clematis mingling with Roses on the arbour, a few Violets and Lily of the Valley on the shady side, and in the summer a little Lemon Verbena and Heliotrope on the sunny side. All these could be grown, and would go a long way towards making a real garden instead of a soulless formality. There is one other objection I have to Mr. Morley Horder's plan: the domino beds and the quarter circles all have one or more sides abutting on to the path; in some the remainder is in the grass. This would look lop-sided and ugly. If the paths were of gravel, the beds and paths would get horribly mixed; if of stone, the edges would be hard and cold. True, the beds are big enough to plant Box edging round if everything else were omitted.—GEORGE DILLISTONE.



MR. G. DILLISTONE'S PLAN OF A SMALL GARDEN.

—— I have been much amused at the egotism displayed throughout the note by your correspondent Mr. P. Morley Horder, page 20, issue January 20. I did not claim perfection for my plan of a Rose garden, but I find it does not exhibit the crudeness of his alternative plan, which forcibly reminds one of chairs in a room placed with their backs so many inches from the walls on all sides. Mr. Morley Horder evidently requires a bricklayer to form a Rose garden, not an experienced gardener. There are too many of these stiff designs in small gardens, and I find that the majority of Rose-growers like to get away from this stiffness and be able to get a glimpse of a fresh feature at every turn, not see the whole at one glance. Why should not the owner of a small garden have a pergola for his Rambler types? If such are planted near the fence or trees, as shown in Mr. Morley Horder's plan, they would be robbed of much nourishment. Why should all the Roses be grown close to the dwelling-house windows? Why should not an owner of a suburban garden have a few trees on his lawn? I note Mr. Morley Horder has two sentinel trees, "apparently of the conifer type," near the position he recommends for an arbour. People generally like an arbour in a secluded, sheltered part of the garden, where they can rest and read; not at the entrance to the vegetable quarters. During the past thirty years I have laid out and planted scores of gardens in different parts of the country, for which I have been responsible. What authority does Mr. Morley Horder claim as a universal, infallible judge in such matters? In the circumstances I should have thought he would have shown more originality, and not have taken my plan as a basis for his "alternative one." Without using the extravagant language adopted by Mr. Morley Horder, I assert that his alternative plan is quite unsuitable for adoption as a model for the garden design of the great majority of modern suburban residences. The monotony of such gardens would be appalling.—THE AUTHOR OF THE OFFENDING PLAN.

An Analysis of Apples.—I fear that the article under this heading in your issue of January 13, page 12, may be a little misleading to some of your amateur readers. It looks almost like an election, whereas it is nothing of the kind, but only a *résumé* of articles which have appeared in your pages during the past year, and the Apples in question may have been mentioned favourably or quite otherwise. In any case the list, though far too long for any ordinary cultivator, does not contain all the desirable Apples, nor must the number of times they are mentioned be considered a guide as to their relative values. First, with regard to omissions, I think it will be conceded that the following are superior to many of those named: Emneth Early, Golden Noble, Irish Peach, King of Tompkins' County, Lord Hindlip, Mr. Gladstone, Norfolk Beauty, Royal Jubilee, Stone's or Loddington, and William Crump, to say nothing of some of the newer varieties not yet fully tested. With regard to the merit of the Apples mentioned in the list, this is not a matter upon which any one person could be a judge, for, naturally, he would be guided in his judgment very largely by the behaviour of each variety in his own particular district. If he lived in Essex he might include D'Arcy Spice, or if in Cornwall he would certainly vote for Cornish Gilliflower, but in most localities these varieties would not appear in his selections. As your correspondent truly says, many of the varieties are somewhat capricious in their behaviour, and it would be impossible to speak of all of them

in detail, but I should warn intending planters that in certain soils many of the varieties are liable to canker, as, for example, Cellini, Chelmsford Wonder, Coronation, Lord Burghley, Dumelow's Seedling, and Potts' Seedling (which printers will have Pott's), the best of all Apples for a smoky district. Also there are others which are surely out of date, such as Cardinal, Court pendu Plât (usually a dry thing), Domino (superseded by Emneth Early or Melrose White), Gravenstein (of which I have grown seven varieties, all imported from Denmark because one heard that this was the favourite Apple of Queen Alexandra, but none of which seemed worthy of cultivation here), May Queen (poor in the Midlands) and others. Benoni is excellent where it will crop, but I grew it for years and only once saw a crop of fruit. Some of the Apples which have not been mentioned frequently, and which in an election would probably obtain a good number of votes, are Grenadier, Rev. W. Wilks, Barnack Beauty, Beauty of Kent, Ellison's Orange and Devonshire Quarrenden. With regard to Cox's Orange Pippin, the king of dessert Apples, who shall say where it will succeed without trial? A warm, light soil is usually recommended; nevertheless, it does well on a dry clay. To merit success, plant it in conjunction with some well-known good pollinator, such as Worcester Pearmain, and grow it either as a cordon or an open bush. I never see Cox's Orange Pippin cropping well when the tree is overcrowded with branches. —A. H. PEARSON, *Lowdham*.

The Old Clove Gilliflower.—There are many interesting things in the article by S. Hope Evans on "According to Parkinson" in THE GARDEN of January 20, page 22, and I may be permitted to refer to the Old Clove Gilliflower. It is, as your correspondent remarks, very difficult to get. This real Old Clove Carnation, or Gilliflower, is hardly procurable. It is exactly as your correspondent describes it, and has "rather untidy flowers, but big and very sweet, with curly, pale green grass." I grew it many years ago, but it was lost when the death of a relative entailed a prolonged absence from home at a time when it needed attention. Its strong point was its perfume, which was powerful but not offensively so. It is a great pleasure, but a tantalising one, too, to bring Parkinson's "Paradisus" out of its bookcase and endeavour to recall some of the old flowers, a proportion of which were known to me in early days, but many of which cannot easily be identified, and still more are unobtainable in any way at the present time. Some years ago I endeavoured to trace all Parkinson's Lychnises, and wrote some notes upon them. One of them gave me some trouble to identify, and I had to be indebted to a good friend at a distance for enlightening me. The garden "According to Parkinson" is, as an old gardening writer said, "a pretty fancy," and should give more than passing pleasure to lovers of old horticultural literature and of that grand old gardener John Parkinson.—S. ARNOTT.

Early Bulbs and Sunless Weather.—My first Daffodil to open this year under glass is Cymry, raised by Mr. T. Batson of Beaworthy. He kindly sent me some bulbs last autumn as a present, and it is a very charming and useful little flower for early work, evidently. It possesses Tenby blood pretty obviously, but has the merit of a longer stem, while in sturdiness of foliage and flower-stem it follows its parent. I have to record with regret that Tulipa Kaufmanniana will not force. Out of a big batch of potted bulbs a few were put into a temperature of 60° as an experiment. The flowers have opened, but in spite of attention in the matter of frequent spraying, the tips of all the petals are more or less shrivelled. Further batches have been put into a graduated succession of lower temperatures, and I hope to report on these later. The Rev. J. Jacob tells me that this beautiful Tulip species does remarkably well with him in pots in a quite cold house. Flowering bulbous plants in frames and cold houses have simply stood quite still during the last three weeks, owing to the unusually dull, dark and sunless weather experienced. January has, in fact, been a most uninteresting month from the point of view of the lover of hardy flowers.—F. H. C.

THE NEW REGELIO-CYCLUS IRIS LEUCOTHŒA. FLOWERS VIOLET BLUE, SHADED BROWN.

REGELIO-CYCLUS IRISES

BY R. IRWIN LYNCH, M.A., V.M.H.

AFTER a lapse of at least eighteen years these Irises are still described as "new," and they certainly deserve all the credit that word can give, for they are still quite uncommon and no section is better worth attention. They were originated both by the late Sir Michael Foster and Messrs. Van Tubergen, the well-known bulb growers of Haarlem, and consist of hybrids between members of the difficult section Oncocyclus and the more easily grown section Regelia. The result of the crossing has been that splendid flowers of the Oncocyclus type can be obtained every year from plants that are truly perennial and easy to grow. Moreover, two flowers are nearly always produced by each stem; while it is a character of an Oncocyclus Iris that its stem has only a solitary flower.

The Oncocyclus Irises, it will be remembered, are commonly called Cushion Irises, having a broad, diffuse beard. The old Iris susiana, known as the "Mourning" Iris, may be taken as a type, though much more beautiful species, like Iris Gatesii and I. Lortetii, are grown. The unfortunate circumstance is that they are difficult to grow, due partly to the probable fact that they are naturally not very long lived. This difficulty was overcome in descendants nearly as fine, when crosses were made with the Regelia section, which is quite easy to grow. These Irises are characterised by having a linear beard usually common to all the segments (not limited to the falls), stem with two or even three flowers, spathe valves always green, and a rootstock with the new buds separated by a neck.

The hybrids, as already mentioned, have usually two flowers to a stem, which are very similar to those of an Oncocyclus, and the beard may approach that of either of the parent sections. One of the finest of the hybrids produced by Sir Michael Foster was between paradoxa and Korolkowi, named by him in his own peculiar, but perhaps very useful, way—par-Kor. This system, the method of which is obvious, at once provided a distinctive name and gave information of parentage at the same time. I. paradoxa, rich in colour and distinct in form, it may be mentioned parenthetically, was a very useful parent and always evident in the hybrid it assisted to produce.

Sir Michael Foster's experiments, of course, have ended, but Messrs. Van Tubergen fortunately still continue to grow and distribute. In their catalogue of last year twenty-three kinds are briefly described. Charon is of bronzy mahogany colour, beautifully veined with old gold and brown. Of lighter effect is Irene, very chaste, of silvery white, with chocolate brown veins.

Persephone is purple blue, feathered on grey ground. But these are only examples to show variety. Jocaste has white standards, tinged with rose; falls silvery white, veined with brown violet. Eucharis has silver grey standards, with brown veins; the falls are darker and have a large central brown area, from which dark veins of similar colour seem to proceed. The five mentioned form a very good selection, but others are equally beautiful.

Cultivation.—This, as already mentioned, is not difficult. It is still worth while, however, to make up a special bed. In the Cambridge Botanic Garden these and other select Irises of certain groups do well on a slightly raised bed in full sun on the south front of the range of plant houses. It is well drained, and to the depth of about 18 inches consists of a mixture of good soil and broken brick in about equal proportions. The drainage below consists of a good depth of broken brick. When the plants are in growth, water is freely given as required, and this is important, for successful cultivation very often depends not upon any one point, but upon the proper balance of several. It is for this reason that Nature cannot always be followed in gardens, for when it is impossible to follow in one particular it is useless to follow in others. In the case of this bed, dry conditions or wet conditions can be provided practically as wanted. After flowering a dry period is necessary for ripening; then, when growth is evident, moisture again is required.

THE EDIBLE PASSION FLOWER

(PASSIFLORA EDULIS.)

In these days, when every ounce of everything that can be classified as a food product is of value, and when fruits in particular are in especial demand, no apology need be offered for bringing to notice one of the many fruits that in peace days used occasionally to find their way into Covent Garden Market or any of the great exhibitions of Colonial or Indian produce. One of such fruits is that of which an illustration is given, namely, the edible Passion Flower (Passiflora edulis). The plant is a native of Brazil, but it is also cultivated in the West Indies for the sake of its fruits, which are somewhat egg-shaped, measuring about 1½ inches in diameter, and as they ripen they change from the normal green colour to a dark purple. The pulp is orange coloured, and has an acid flavour somewhat resembling that of the Orange.

From the fact that this, like most of the other species of Passiflora, is of easy culture and is not particular regarding soil—though preferably it should consist of turfy loam with a small portion of peat and, further, that the plant is most suitable for training up the roof of a greenhouse or stove, it is remarkable that it is not more often grown.

JOHN R. JACKSON.

Claremont, Lympstone, Devon.

PASSIFLORA EDULIS.

BORDER CARNATIONS

BY J. L. GIBSON.

IT is not too soon to start preparations for the final potting of Carnations to be grown under glass. If the soil has to be mixed and prepared by the grower himself, that should be done a week or two before the operation begins, as the different ingredients become better blended by frequent turning over. It is rather hard to express, but newly mixed potting soil has a raw, harsh "feel" compared with that which has been prepared for some little time. Moreover, the mechanical condition of the compost is under better control for the actual work of potting if the material has been under cover and turned over several times; that is to say, it can be brought to a proper state of dryness for working, or the materials can be slightly altered in proportion if there seems to be an excess of any one of them. A good medium to use is turfy loam, four parts; thoroughly rotted farmyard or stable manure, one part; and leaf-mould, one part. To this some coarse opening material must be added, such as sand, crushed oyster-shell, or ground mortar rubble, about as much as a 7-inch pot will hold to a barrow-load of soil. Personally, I prefer to use the last named, provided it can be brought to a condition of fineness resembling coarse silver sand, because the lime contained therein is appreciated by the plants and induces towards a strong, healthy growth with beautiful leaf colour. If the layers are being wintered in 3-inch pots, the largest of them may by this time be pot-bound. If so, they will be all the better for a shift into 4-inch or even 5-inch pots. I then leave these plants to the last when the final potting is done, by which time the roots are already filling up the new soil. The compost to be used for this temporary repotting, however, must be similar to that prepared for the final potting, because presumably the roots are in a strong, healthy condition and can assimilate the more nourishing materials supplied.

Plants in the open need but little attention at present. A dusting of soot (not fresh from the chimney) now and again will help to keep sparrows off, and the beds should be kept clear of weeds. Where the common Chickweed abounds, it is not sufficient to pull up the plants and leave them on the surface, as they have the power of catching hold of the soil again and the stem roots itself freely on the under side along its whole length, thus practically replanting itself with sufficient success to mature seed in a few weeks' time. This prolific weed seems to be particularly abundant in well-cultivated soil, and is a perpetual nuisance in gardens.

As many growers extend their collections of Carnations at this time, I might give particulars of a few of the newer sorts which are well worth procuring. Fair Ellen and Othello I have spoken of in previous notes, and they must be represented in every first-class selection. Mrs. Arthur Cruwys is a fine new fancy of Persephone type; but, from what I have seen of the growth and habit, a better doer than the older flower. The brilliant cerise markings on a dark mauve ground make up a flower which appeals to all who love those daring combinations of colour the Carnation is sometimes capable of producing. Induna is a new dark self, the flower finely formed and well held up on a stiff stem. The latest addition to the scarlet selfs, Fiery Cross, I have not seen in flower, so cannot speak with authority. If it is sunproof there is room for it, for I believe it has strong growth and an excellent petal. My Clove is worth including for its scent. The flower is large without being coarse, a delicate rose in colour, but not quite constant, sometimes coming paler with a suffusion of lavender. Rosetta is a first-class novelty, intensely bright rose pink, with perfect shape, and gained distinction at last year's Southampton Show.

For those starting to grow Carnations and anxious to have a really first-rate lot of plants chosen from the older varieties, I can strongly recommend the following: White, Bookham White and Furthest North; yellow, Daffodil,

Mrs. Elliot Douglas and Solfaterre under glass, Border Yellow for outdoors; pale pink, Annie Laurie and Innocence (add Lady Roscoe if a blush white is wanted); salmon pink, Salmonea and Mrs. Robert Gordon; apricot and buff shades, Robert Bruce, Mrs. G. Jones, Mrs. Robert Morton, Mrs. G. A. Reynolds and Dora Blick; orange, Elizabeth Shiffner; rose, Beau Nash and Rosy Morn; red, Fujiyama; scarlet, Brilliant, Jean Douglas and Robert Berkeley—this is a weak class, as the colour burns badly. Miss Willmott might be included here, though it is more of a coral red; the blooms are perfect in shape and very bright. Crimson, Mrs. George Marshall, Gordon Douglas and Helen Countess of Radnor; deep crimson, Hercules, The King and Henry Brett; maroon, Zulu and Agnes Sorrel; old rose, Miss Rose Josephs and Unique; lavender and grey, Ellen Douglas, Evangeline and Greyhound; fancies, Lord Kitchener, Mrs. Andrew Brotherstone, Daisy Walker, Virginia, Edenside, Centurion, Mrs. H. L. Hunt, Mrs. P. W. Owen, Pasquin, Skirmisher, Queen Eleanor, Montrose, John Ridd, Linkman, Lieutenant Shackleton, Caprice and Forester.

I have named these at random and from memory, and doubtless have missed some favourites of other growers, but the foregoing are all good sorts and would form a valuable collection for even the most enthusiastic cultivator. I think I might have added The Begum to the list of fancies; it may not be everybody's flower, but it is extremely pretty and a nice dwarf grower.

SWEET PEA MONEYMAKER

In my opinion I am inclined to put Moneymaker at the top of all white Sweet Peas, for the very simple but incontrovertible reason that it is the sweetest of them. Alas! Sweet Peas nowadays walk by sight and not by smell, and so Mother o' Pearl is still ungrown and unlisted, although in the class for scent in 1913 or 1914 it was *easily* the most fragrant. At the beginning of last season I kept noticing something particularly sweet whenever Sweet Peas were put in my study, and as I only had some eight or ten varieties it was an easy matter to "spot" the variety whence came the splendid spicy smell. King White, which was my white second string, was simply "not in it," nor were any of the coloured ones—Mother o' Pearl, of course, excepted. All through the season I kept testing my Sweet Peas for sweetness by asking visitors to close their eyes for a moment and tell me which of the two small bunches (Moneymaker always being one) that I held under their noses was the sweetest. It was always Moneymaker. *Ergo*, if anyone wants a Sweet Pea with a particularly pleasing scent, let him try Moneymaker.

JOSEPH JACOB.

NOTES FROM A COUNTY DOWN GARDEN

As I write the wind is roaring through the trees, and the moon occasionally breaks through the clouds, giving fitful flashes of light. We are concerned about some trees we have planted to-day as to whether they will be blown out of the ground or not. I was much interested in the illustration of Mistletoe on a Pear tree, which appeared in THE GARDEN of December 30. Now this is the one tree on which my old friend, Mr. W. H. Phillips, the eminent Fern enthusiast, of this town always assured me he could never get Mistletoe to grow. He has been growing Mistletoe for at least sixty years, and the Pear and the Oak always failed to his attempts. James Lane Allen has written a rather weird, short novel in which the Mistletoe and its ancient Druidical rites are set out. I am often confronted with the question as to whether Mistletoe growing on Apple trees prevents their fruitfulness or not. The Editor assures me that he believes it does, and I agree with him. So grow your Mistletoe on old trees which are useless for fruit.

THE CREEPING SANDWORT (ARENARIA BALEARICA) CLOTHING A ROCKY WALL FACING NORTH.

What a "taking" little girl "Anne Amateur" appears in her portrait of fifty years ago! Quite as charming are her notes in THE GARDEN of to-day, and when I read "Fifty Years' Recollections of Christmas Decorations" I think how many white Camellias, alas! are being worn this year.

We had a 10-inch pot of Schizostylis coccinea for our Christmas flowers last year, and think this flower should be more used than it is, always remembering it requires even treatment, not a very hot room, and then 32° Fahr.

The method of burying Brassicas head downwards seems to me to be a most excellent one, especially if one has too many plants of the same sort and wishes for a long succession.

What a wonderful man is Sir Frank Crisp! The photograph given was most interesting to me, as I see he is a fellow-lawyer and has gardening for his hobby. Believe me, this is *the* hobby *par excellence* for the sedentary brain-worker, the hobby which compels one to take the open air whether one likes to do so or not.

I wandered into the woods here recently and was delighted with their internal beauty and colour, even in the winter season. The bronze and purple leaves of the Beech were like a carpet, interspersed here and there with a tracery of Ferns and single plants of Primrose. Several cascades were falling with a silver sparkle, and a sweet murmur of sound pleasant to the ear in the stillness and the dark rocks covered with mosses completed the picture. Wordsworth's lesson could be read here, and I pitied and thanked our gallant lads in the trenches who are ensuring such a peace as this for us.

If one wishes to obtain a stock of that popular rock plant Aubrietia, it is very interesting to get a packet of mixed seed and sow it in a pan. One sometimes gets some very good results, and may possibly come on a novelty. I remember some years ago obtaining a little gem which used to bloom right through the winter. Another plant of a dwarf size is Arenaria balearica, the Creeping Sandwort, also the species montana, both of which should be grown quite as frequently as the Arabis, Alyssums and Rock Cresses one constantly sees in small rock gardens. The hardy Cyclamens are also worthy of notice, and these can all be raised from seed, sown preferably about the month of May. It is surprising how sturdy all these seedlings are if the seed is sown in good fibrous turfy loam with a little compost from an old hotbed and a trace of sand. They never seem to go back, and even if pulled out by birds soon recover if replanted. This seems to be a good time to strike cuttings of Chrysanthemums, and

they may be struck in a cold greenhouse or frame with a hand-glass placed over the pots or pans; but a little heat is, I see, preferred to quicken up the rooting process. A rather curious thing arises with regard to the time of flowering. It appears that the earliest-struck plants flower later than those struck later; that is to say, cuttings struck in November and December flower later than those struck in January and February. This seems contrary to reason, and if any readers wish to pursue the subject further they should get the Journal of the Royal Horticultural Society for May, 1916, and see the article on "The Early Flowering Chrysanthemum," by Robert Fife. He does not profess to explain the matter. Perhaps some readers of THE GARDEN could do so.

Holywood, Co. Down. W. SMYTH.

WHITE BROCCOLI & THEIR CULTIVATION

IN many gardens, and, indeed, in market establishments as well, failure is often experienced in growing good white Broccoli and in maintaining a good supply of large white "heads" over a long period. To a great extent this failure is due to a wrong perception of the principles involved, and it is to try to make the matter slightly more clear that this article is penned.

White Broccoli are closely allied to Cauliflowers, with one vital difference between the two races, viz., that the latter will not stand a winter in our climate, while in most ordinary winters and under good management the former will survive. The benefit derived from this characteristic of the Broccoli is, of course, that it is possible, with care, to get a supply of "heads" from the open ground from November onwards till well into June, and thus to link up with the late autumn Cauliflowers on the one hand, and the early Cauliflowers from plants wintered in frames on the other.

With those which come into use before Christmas no particular difficulty is experienced, except that the plants should not be forced along by heavy dressings of manure, so as to get too soft and in a condition to be damaged by any severe frost which may come during that period. Between Christmas and March, however, we must expect some severe frosts, on many occasions very severe, and this is a factor to be recognised in any consideration of the question. Another very important point, also connected with the weather conditions, is that as soon as the winter is fairly gone and milder conditions prevail, growth of all kinds of vegetation proceeds at a very rapid rate, particularly in that portion of its activities which is connected with flowering. The effect of this upon such a biennial as the Broccoli is to cause even the smallest plant to proceed to form the flower, "head," "curd," or whatever may be the grower's name for it, rather than to make growth in girth of stem and in general increase in size. It will thus readily be seen that there are two essential points to be observed in growing good Broccoli, particularly in the spring months, viz., that the plants should be as large as possible before the winter comes on, when growth, of course (as a general rule), ceases, and that they should be as hard as possible, so as to be uninjured by very severe frosts. To obtain these desired ends there are three things which are necessary — a long growing period, a soil sufficiently but not too abundantly furnished with plant food, and a soil that has been well consolidated, so as to secure good rooting without an excessive root-run, such as would be made in a rich, loose soil.

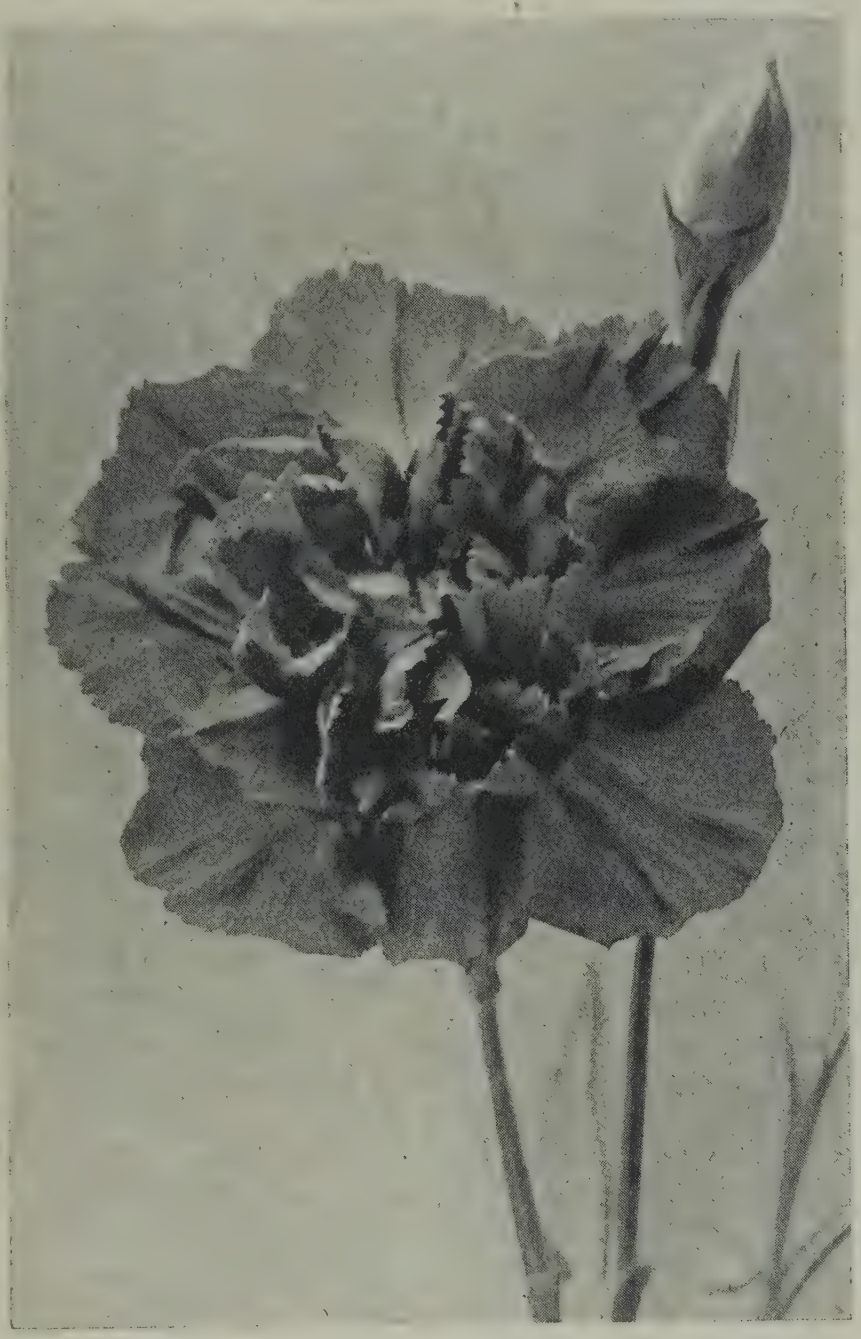
Sowing the Seed.—To obtain a long growing period the seed should be sown early—that of the November and December sorts in March, the January, February and March sorts in April, and the later varieties not later than the first week in May. The seed should be sown very thinly in drills 9 inches apart, and, if it is possible, the plants should be pricked out about three inches apart as soon as they can be safely handled. On no account must the plants be allowed to get "leggy." If it is not convenient to prick them out, then they should be planted straight out as soon as possible, the shorter "leg," they have and the closer they sit to the ground the better.

Preparing the Soil.—If the ground has had to be freshly dug or ploughed for the crop, it should be trodden or rolled several times (of course, in suitable weather) till it attains a road-like solidity before the plants are set out. A most successful grower of January Broccoli thus rolls and re-rolls his land, and if the holes for the plants need to be made with an iron bar, the better pleased is he, since his experience tells him that the result in the end is better. On any but the poorest soils no nitrogenous manure should be applied for this crop; but if it is possible, the preceding crop occupying the land should have received a good dressing of a complete manure, so as to supply the necessary phosphoric acid and potash as well as nitrogen.

Treatment in Spring.—As soon, however, as the danger of very severe frosts is over in the spring, steps should be taken to secure as much growth of leaf and curd as possible, and to that end two or three dressings of sulphate of ammonia at intervals of about ten days should be given, using in all about three hundredweight per acre during the time. Very great advance has been made during the last few years in the production of new varieties, and there is now a very great number of excellent strains from which to make a selection. For November use, to follow Autumn Giant Cauliflower, there are strains of Self-Protecting and Michaelmas White which come in for this early winter use. Following these we have Winter Mammoth, a lovely white head for mid-December and Christmas. For January and February there are two fine varieties of a lovely type, giving the purest white curd, viz., Superb Early White and Snow White. For March the general variety in use is Leamington, but this is a little inclined to come somewhat yellow in colour. There is, however, an improved variety called Perkins' Champion which is not open to this objection, but comes quite white in the curd, though perhaps it is a week or two later than Leamington in coming in.

Of all the Broccoli, perhaps those latest to come in in May are the most appreciated and sought after. Late Queen and Latest of All are both excellent in quality. Some of the finest strains of late Broccoli, however, are not in commerce, being in the hands of market-men, who have been selecting and re-selecting the stock for the last two or three generations, and from whom it is impossible to beg or buy even a single seed. In course of time, however, these will doubtless pass into the seedsmen's hands, when several late strains, later than anything at present in commerce, will be added to our list of useful varieties.

Pilgrim's Hatch, Essex. F. W. HAMMOND.



PERPETUAL-FLOWERING CARNATION RED ENSIGN.

CARNATION RED ENSIGN

THIS new Perpetual-flowering Carnation supplies a long-felt want among these delightful flowers. The colour is a very bright scarlet of a light rather than a deep shade. As may be judged from the accompanying illustration, the blooms are very large and of good substance; it might also be mentioned that the variety has a good bushy habit. At the winter exhibition of the Perpetual-flowering Carnation Society held in London last month, Red Ensign proved to be one of the great attractions, and it received an award of merit. It was shown by Messrs. Stuart Low and Co., Enfield.

SOWING PEAS

As soon as weather permits early Peas may be sown in the open on well-drained soil. The ground should be deeply trenched and enriched with well-decayed farmyard manure, for the Pea is a very deep rooting plant and a gross feeder. The soil cannot be too deeply worked, although the sour subsoil must never be brought to the surface, for neither Peas nor any other crop will grow satisfactorily in it. The subsoil should be dug up and left at the bottom of the trench. It is a mistake to bury the manure in a thick layer. By all means apply well-decayed manure, but let it be incorporated with the soil as the ground is turned over. After a few days the soil will settle and seed sowing may commence. It is well to sow in shallow trenches, as this affords protection for the seedlings. A light sprinkling of bone-meal and a little prepared soil from the potting shed, although not absolutely necessary, will give the seedlings a fair start in life. It is just as well to take the precaution of rubbing the seeds in red lead before sowing, and where mice abound traps should be set for them. With Peas, as with all other seeds, it is a common failing to sow too thickly. Considering that the seedlings should be thinned out to about 3 inches apart, it is very wasteful to sow as thick as Mustard and Cress. However, it is advisable to sow twice as thick as the plants are to remain—that is to say, the seeds should be about 1½ inches apart—and each shallow trench should contain a double row. The seedlings in their very early stages must be protected from birds either by Pea guards or by placing strands of black thread criss-cross over the rows. This should be done immediately after sowing.

For an early gathering on a sheltered sunny border Pilot is one of the very best. For a succession, Duke of Albany, Quite Content, Gradus and Discovery are reliable; while Rearguard, Gladstone and Autocrat are hard to beat as late varieties.

BEETROOT CRIMSON GLOBE

GLOBE Beetroots have been so much improved in recent years that some of the better varieties seem quite equal to the tap-rooted Beetroots, both in colour and flavour. Apart from improvements that have been wrought among Globe Beetroots, this useful vegetable possesses a great advantage over tap-rooted Beetroots for cooking purposes. It is sometimes necessary to shorten very long roots in order to accommodate them in the boiling pot, and this leads to what is known as bleeding, with its consequent loss of colour and flavour. It is usual to store the roots in sand, and bleeding may also be caused by trimming the foliage too close to the roots before storing. Toogood's Crimson Globe is a shapely variety of delicious flavour. It is essentially an early variety for saladings, and should not be allowed to remain too long in the ground, lest it loses colour.

Referring again to the question of bleeding in Beetroots, we observe that a new variety named Non-bleeding is now being offered by seedsmen. This variety is said to possess the unique quality of not losing its colour in any degree during boiling (as is the case with all other Beetroots) if the roots are cut or broken. Even if the roots are cut in pieces before cooking, it is said that the flesh remains deep blood red.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery.—For the earliest batch of plants sow a pinch of seeds in a temperature of 60° and let them remain there until the plants are through the soil, when cooler quarters should be provided. White Gem is a good variety for early use.

Cabbage.—Where the autumn-sown plants are not promising, plants of such varieties as Earliest, All Heart, or Favourite, raised from seed sown early in February in a cool house, will fill a probable gap, and perhaps be appreciated even if there is no shortness in the ordinary crop.

Cauliflowers.—First Crop, Purity and Magnum Bonum are desirable varieties to sow early in February in a temperature of 55°, growing them on sturdily, and planting them out in a sheltered position at the end of March.

Rhubarb.—Now is a good time to plant roots that have been forced in heavily manured, deeply dug soil. For strong-growing sorts allow 4 feet between the roots.

Turnips.—For the earliest pulling of roots sow seed of Early Milan in a frame of rich soil over a mild hotbed.

Fruit Under Glass.

Peaches and Nectarines.—Complete the pruning of all trees as fast as possible. Cut away all weak, useless wood, even at the expense of leaving the trees thin; seldom are they left too thin of wood. As a rule, they are overcrowded. Shoots of the thickness of an ordinary Cedar pencil give large, well-ripened fruit. Too many poor crops could be traced to overcrowding of the branches. Freedom of development of the leafage is important in securing plump flower-buds. As the buds swell, see that the roots are sufficiently moist. Much more harm is done by too dry a soil than the reverse.

BEETROOT CRIMSON GLOBE, AN EARLY VARIETY FOR SALADINGS.

Figs.—Complete the pruning and training of trees against walls or under roofs, cutting away freely all weak, useless shoots. Trees that made too vigorous growth last season should have their roots curtailed by pruning and withholding nitrogenous manures.

Strawberries.—Introduce plants as fast as space in the early vinery or Peach-house permits. Thoroughly clear the plants of dead leaves, stir the surface soil, and apply a sprinkling of bone-meal if the pots are small and the crowns vigorous.

Vines pushing their buds should have a sufficiency of atmospheric moisture, whether it be by syringing the rods or damping the walls and floors. There is really no advantage in syringing the rods; the Vines break into growth equally well without such aid. With such uncongenial weather as we are now experiencing, do not raise the night temperature beyond 60° at this stage of growth.

The Herbaceous Border.

Renovating the Plants should be done towards the end of the month, where it is not proposed to re-plant the whole. Free-growing subjects like Helianthus, Heleniums, Phloxes and Rudbeckias quickly exhaust the soil about them and become weak in the centre, and to keep up a maximum of flowers they need renovating. Where the clumps are large, cut away freely one half, retaining the outer portions of the sucker-like growths. Replace the soil close to the roots with a rich compost and half-decayed manure as the renovating proceeds, and dig in some manure in the open places for the benefit of other subjects that do not require individual renovation.

E. MOLYNEUX
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Mint.—It is advisable at this time to lift some roots of this herb and plant them in boxes for gentle forcing. Place them on the floor of an early vinery, and the young growths will soon be ready for use.

Lettuce.—Where salading is in demand, a sowing of Commodore Hutt should be made in a frame. For early crops this is a most desirable variety; it is hardy and of excellent flavour. We find Sutton's Favourite almost as early, but generally sow it a week or so later for succession.

Radishes.—These should also be sown freely in frames now. Earliest of All and White Forcing prove most suitable among the Turnip-shaped varieties; while those who favour the long kinds should try Sutton's Earliest Frame or Long White.

Mustard and Cress.—This delectable salad is always appreciated, and regular sowings should be made in boxes. This method is most convenient at present, as a box may be moved to a cooler house and the plants retarded at will.

Fruit Under Glass.

Melons.—Early Melons are always acceptable, and an effort is generally put forth to have them as early as possible; but everyone is not so happily situated as to command well-heated structures, and so must delay their sowings until they have the additional advantage of sun-heat. Most growers have risked a sowing before now. Care should be taken to examine the soil or sterilise it, and so eradicate such pests as wireworms

and eelworms before the plants are transferred to their fruiting quarters. The first crop is generally grown in large pots; these, when filled with a good fibrous loam and a sprinkling of bone-meal and lime rubble, should be stood for a few days in the house where the plants are to grow, so that the chill may be taken off the soil before the young plants are finally moved into them.

Plants Under Glass.

Cinerarias.—The most forward of these will now be showing colour, and before moving them into the conservatory they should be slightly fumigated to rid them of aphis. The later lot should now be potted on and kept growing freely. Careful watering is still necessary.

Poinsettias.—As these useful stove shrubs are now fading, they ought to be removed to a house where the temperature will be about 50°. Here they may have their necessary season of rest.

Retarded Spiræas.—Where plants are in demand for house decoration, these useful subjects are much appreciated. One of the most satisfactory of the pink varieties is Reubens. Grown along with Peach Blossom and Queen Alexandra it is in full flower quite a fortnight in advance of the other two, and continues in flower for a lengthy period. It is of sturdier habit than either and a brighter pink in colour.

The Hardy Fruit Garden.

Winter Spraying.—This important work may now be proceeded with, as pruning will be practically finished among the hardy fruit trees. It is essential that a calm day be chosen for the work, as the least wind carries the fine spray away from the object aimed at. For a number of years now we have used Bentley's Concentrated Alkali for this purpose, with most gratifying results. Old trees which were covered with fungus have now a clean, healthy and vigorous appearance for the alkali not only acts as a fungicide, but as an insecticide as well. It is advisable for the operator to use rubber gloves when spraying.

The Flower Garden.

Roses.—Pillar and climbing Roses generally should now be pruned and the strongest growths tied in. Where a few of the more delicate varieties are grown, it is advisable to leave them till about the middle of March, when all danger from very severe frosts will be past. Where any further planting is anticipated, it ought to be done during open weather before the end of March.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

CELERY TRIALS AT WISLEY

THE following awards have been made to Celery and Celeriac by the Council of the Royal Horticultural Society after trial at Wisley:

AWARDS TO CELERY.

Awards of Merit.—Clayworth Prize Pink, raised, introduced and sent by Messrs. Sydenham, Birmingham; Clayworth Prize Pink, sent by Messrs. Hurst, London; Invincible White, raised, introduced and sent by Messrs. Dobbie, Edinburgh.

Highly Commended.—Early Rose, sent by Messrs. Hurst, London (A.M., 1900); Incomparable Crimson, raised, introduced and sent by Messrs. Carter, Raynes Park, S.W.; Matchless Pink, raised, introduced and sent by Messrs. A. Dickson, Belfast.

AWARDS TO CELERIAC.

Highly Commended.—Delicatesse, introduced and sent by Messrs. Barr, Taplow; Late Summer, sent by Messrs. Barr, Taplow; ordinary type, raised, introduced and sent by Messrs. Sydenham, Birmingham; Selected, raised, introduced and sent by Messrs. Sutton, Reading.

EDITORIAL NOTICES

Every department of horticulture is represented in THE GARDEN, *and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.*

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

TREES AND SHRUBS.

LAURUSTINUS NOT FLOWERING (*D. P. B.*).—It is probable that your Laurustinus plants would blossom better were the subsoil broken up beneath them. It may be that the subsoil is very hard and does not allow heavy rain to soak away well, the water standing about the roots and making the soil cold. That would be quite enough to cause the buds to fall. As the plants are otherwise healthy, it must be some quite local condition that causes the bud sto drop. You cannot do more than you have done to make your plants of Iris stylosa flower; the position ought to suit them well. It would, however, be a good plan to take a light out during the evening and pick off any slugs that are injuring flowers or leaves. By surrounding the plants with sawdust many slugs may be kept away.

PRUNING CAMELLIAS (*E. de L.*).—If it is necessary to prune the Camellias, this operation should be carried out directly the flowers are over. At the same time, we question very much whether you will find it advantageous to subject them to much pruning. As the plants are very old, you will find if they are cut back into the hard wood that some of them at least will break out weakly, so that you will have scarcely any flowers next year, and quite possibly but a limited number the year following. It may be that your plants are crowded with a great many shoots too weak to flower, in which case they might be improved by a thinning out of any old and exhausted wood. Generally speaking, Camellias need but little pruning, unless a branch or two outgrows the rest or there is a crowd of weak shoots.

ROSE GARDEN.

ROSE QUERIES (*R. C. S.*).—1. If possible, allow a foot of space from the stem of standards and half-standards: rather more than less would be preferable. 2. A good fast-growing Rambler for your shed would be American Pillar. Polygonum baldschuanicum is quick growing. Pyracantha and Ceanothus are slow growing, but they would look nice between two fast-growing subjects. We are always pleased to help our readers.

VAPORITE FOR WIREWORM (*T. W. L.*).—1. You will do well to dress your land with this useful fumigant. It is best to fork it into the soil two or three weeks before planting the Potatoes, and at the rate of 1lb. to every 8 square yards of land. 2. Pruning old neglected Rose bushes.—It is not wise to prune back all the old growths, but you may prune back, say, two-thirds to 5 inches or 6 inches and retain young wood on the others for this season. Of course, the young wood may be pruned back pretty hard: but with vigorous growers, such as Hugh Dickson, leave some of the last summer's growths 6 inches to 12 inches long if they are well ripened. 3. No: do not prune Irish Elegance: merely top the growths. We have a plant some 5 feet high and as much through, and we only just top the growths. Now and then a very old growth is cut clean out to induce young wood to grow from the base.

KITCHEN GARDEN.

TRANSPLANTING FRENCH BEANS (*Learner*).—The lesson from the contradictory and vague directions you quote is that great care must be exercised in transplanting French Beans. There is no need to transplant them for the main crop, and in your mild district there is little fear of frost damaging them if they are sown outdoors in the middle of April. They are a little hardier than the Scarlet Runner. If you want an earlier crop to transplant outdoors, sow 2 inches apart in a cold frame placed in a sunny position early in April, and transplant into a sheltered situation in the second week in May, shading from the sun for a few days after transplanting and protecting from frost by means that will readily occur to you. If this is done, the seedlings must be given air as soon as they are up, and be more and more exposed until transplanting time comes, so as to "harden" them, *i.e.*, cause the leaves to form a thicker cuticle than they would do in close conditions. Lift them carefully with a trowel, or if the soil used was turfy, pull it carefully to pieces, keeping a ball of soil about the roots. We fear directions given in gardening books are often vague, because they are written by skilled practitioners of the processes described, who do not allow for lack of knowledge of details in others which they, because of their familiarity, never realise. In this case the important thing in transplanting is to move the plants without breaking the roots to an injurious extent This is very difficult if they have been growing for more than five weeks under the conditions described, and it is not worth attempting unless an early crop, say, at the end of June, is desired.

MISCELLANEOUS.

A HOME-MADE WEED-KILLER (*Amateur*).—A weed-killer can be manufactured as follows: Dissolve 1lb. of powdered arsenic in 3 gallons of cold water; boil well, keeping the mixture well stirred. Add 7 gallons of cold water and 2lb. of crushed soda; stir well and boil, then apply the mixture during dry weather. This ought to prove effective for the purpose in view, though a good deal depends upon the character of the drive

DESTROYING SLUGS (*Nemo*).—We cannot think that either copper sulphate or Bordeaux mixture would be of the slightest use as a "slugicide" (horrid word!). If bran or middlings (both of which slugs will eat when moist) are treated with an arsenical poison, they may be placed near the haunts of the pests, but are not likely to be effective outdoors. Indoors, Lettuce leaves or pieces of Potato are almost equally effective if laid near the haunts of the slugs. The methods of dealing with slugs outdoors depend largely upon making the conditions unpleasant for them, and such things as lime, alum, Sanitas and the like placed about plants need frequent renewal, for the weather acts upon and destroys them. The use of ammonia is not to be advocated; even diluted solutions are very poisonous and very penetrative. The action of a substance used for poisoning a slug is totally different from that of a fungus poison; there is really no analogy between the two.

NAMES OF PLANTS.—*J. K.*—Ilex Aquifolium var. scotica. The berries do not belong to it, and are probably those of Cratægus Crus-galli.

The Royal Gardeners' Orphan Fund.—We are glad to announce that all of the candidates, sixteen in number, will be elected at the annual general meeting, and that no poll will be necessary. The meeting will take place at Simpson's, 100, Strand, London, on February 9 at three o'clock. This Fund, which was founded in 1887, is carrying on the beneficent work of providing for the healthy upbringing and starting in life of helpless orphan children. Contributions are needed, and should be sent to the secretary, Mr. Brian Wynne, 19, Bedford Chambers, Covent Garden, London, W.C.

Lecture on War Vegetables.—Mr. C. P. Ayre, J.P., a well-known Hertfordshire cultivator, took the chair at an interesting lantern lecture delivered at Letchmore Heath, Herts, by Mr. Edwin Beckett, V.M.H., on "Increased Production of Vegetables." A series of slides dealing with vegetable culture were exhibited during the evening, among which were several recently taken of scenes at Aldenham Park, where about thirty acres of rough pasture land are being ploughed up for vegetable culture, to which we shall refer in our next issue. After the lecture Mr. Kent of Letchmore Heath offered the use, rent free, of twenty ten-pole plots for cultivators unable to obtain ground near their homes, and added that he would give two prizes in connection with the plots.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held on January 30 was among the smallest we ever remember, the intensely cold and severe weather being largely responsible for this. Only two exhibits came before the floral committee, and four before the Orchid committee. No new plant received any award on this occasion.

ORCHID COMMITTEE.

Present: Sir Jeremiah Colman (chairman), Sir Harry J. Veitch, and Messrs. J. O'Brien, J. Wilson Potter, F. J Hanbury, Pantia Ralli, E. R. Ashton, J. E. Shiel, J. Charlesworth, A. Dye, S. W. Flory and R. A. Rolfe.

The lovely series of Odontoglossum hybrids staged by Messrs. Armstrong and Brown, Tunbridge Wells, was of a most interesting character and a source of much attraction. The variety of shades, too, was remarkable. Notable varieties in a most fascinating set were O. eximium variety, O. ardentillus var. violacea (reddish violet with white tips), O. gallaveuse (maroon, irregularly marbled white, quite a delightful form), O. Peerless var. Rotunda (clear white ground with shading of chocolate) and O. Peerless Magpie. Of Odontioda Madeline two forms were shown—one of tawny orange with yellow underlay, the other having segments tipped with palest primrose and almost scarlet blotches, both very distinct.

Messrs. Charlesworth and Co., Hayward's Heath, showed Lælio-Cattleya Serbia, Cattleya Clotho, C. Trianæ, Odontioda Florence (whose ground with copious maroon chequering), and a nice example of Odontoglossum crispum Xanthotes (white with yellow crest).

Messrs. Hassall and Co., Southgate, N., contributed a nice series of Cymbidiums, the best being the several forms of C. Sybil, of which four were on view. One was coloured waxy white, another white with heavily freckled crimson lip, and another with pale pink flowers and crimson lip.

From Messrs. Sander and Sons came the white Cattleya Freda Sander, Cymbidium Chaffinch (bush white, red markings) and Cypripedium Actæus var. Radium (a sturdy-looking variety).

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. J. Green, G. Harrow, C. R. Fielder, J. Heal, W. Howe, J. F. McLeod, E. A. Bowles, A. Turner, J. Dickson, C. Dixon, H. J. Jones, C. E. Pearson, H. Cowley, W. P. Thomson, G. Paul, G. Reuthe, J. Hudson and E. H. Jenkins.

Messrs. Allwood Brothers, Hayward's Heath, contributed a nice lot of Carnations, including Mandarin (yellow-ground fancy), Triumph (crimson), Bishton Wonder (heliotrope fancy), White May Day, Wivelsfield White, and Destiny, the new cerise, which was quite good among many sorts.

Messrs. R. F. Felton and Son, Hanover Square, showed cut shrubs, making a fine display of the highly decorative Eucalyptus resinifera, whose branches were full of the rosy scarlet buds almost ready to expand. A showy lot of yellow Acacia was also on view.

Messrs. Herbert Chapman, Limited, Rye, had the honour of exhibiting the first Narcissi of the year, pots of a white seedling from Mountain Maid as yet unnamed being shown. A pretty cyclamineus hybrid from the same source, with Freesias, was also on view.

A new seedling Apple, a cross between Wellington and Peasgood's Nonsuch, was shown by Messrs. Seabrook and Sons, Chelmsford.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE annual general meeting of the above institution and election of annuitants on the funds took place on January 23 at Simpson's Restaurant, Strand, London. Sir Harry J. Veitch, chairman and treasurer, presided over a very small gathering. The report of the committee for the year was read by the secretary, Mr. G. J. Ingram, from which we take the following extracts:

At the commencement of the year there were 265 annuitants, viz., 152 men and 113 widows, receiving an annual amount of £4,848. To-day the committee propose to the subscribers to add by election eighteen applicants from an approved list of sixty-four candidates. They very deeply regret that they are unable to advise a greater number, especially as some of these candidates have been asking for the institution's help for some years past: but with an income diminishing on account of the sad times through which we are passing, and not knowing what the immediate future may bring, they feel it is desirable to be very cautious in the administration of the funds. But while they are sorry that so many deserving cases should have to wait for another year at least before they can receive the longed-for annuity, the committee are very thankful to have the means of assisting many of the very necessitous cases through the two invaluable special funds, viz., the Victoria Era and the Good Samaritan, the income from each of which is devoted in the one case to assisting those unsuccessful candidates who formerly had been contributors to the funds of the institution, and in the other case to temporarily helping deserving applicants in distress through illness or some other misfortune. The interest only derived from invested funds is available for these two purposes.

In moving the adoption of the report and balance sheet Sir Harry Veitch said that they met that afternoon with mixed feelings. The losses the institution had sustained during the year were very much more serious than usual. The late Mr. N. N. Sherwood, one of their trustees, had been a great personal friend of his for many years. He was glad to say that Mr. Sherwood's son, Mr. Edward Sherwood, was following in his father's footsteps, and gave promise of doing a great deal of good; they welcomed with enthusiasm the work he had already begun; but no one could ever quite fill the place rendered vacant by the loss of Mr. N. N. Sherwood. Then there was Mr. Baker, their vice-chairman, a man who was always a warm supporter of the institution. There were others whose death would affect the prosperity of the institution, but he mentioned those two as being among their most intimate colleagues. The present unfortunate circumstances were having an influence on the funds. He did not wish the meeting to understand that the financial position was anything but sound—it was perfectly sound—but, at the same time, they had to face the fact that the institution had to reckon with a diminishing income. Sir Harry referred to the excellent work done by the local auxiliaries, particularly Worcester and Reading, and paid a warm tribute to those who had thrown open their gardens to the public and given the proceeds to the institution. He concluded by referring to the efficiency of their secretary, Mr. Ingram, who for some months past had carried on the work without an assistant. The motion for adoption was seconded by Mr. Howard (Purfleet) and carried unanimously.

On the motion of Mr. W. A. Bilney, Mr. Edward Sherwood, a sincere friend of the institution, was elected a trustee in the place of his father, now deceased. Mr. Ingram was re-elected secretary for the twenty-fifth time. Messrs. A. Bullock, David Fleming, John Jaques, John Jennings, Donald McDonald, Sir Fred Moore, Arthur W. Sutton, Owen Thomas and George Woodward, who retired by rotation, were re-elected members of the committee; and Messrs. H. G. Alexander and James L. Kinnell were elected members of the committee in the places of Mr. George Wythes and Mr. W. Y. Baker, deceased.

RESULT OF ELECTION.

There were sixty-four candidates, and the committee recommended the election of eighteen of these. The following were successful: Abbey, George, 5,845; Farquhar, Jane G., 4,419; Valiance, Abram, 4,369; Caselton, George L., 4,302; Edwards, Jessie, 3,821; Carling, Thomas, 3,759; Truelove, William, 3,759; Cannon, Sarah M., 3,710; Murray, John, 3,674; Penton, James, 3,635; Claydon, John, 3,557; Byrne, Henry, 3,503; Evans, Richard, 3,472; Stonard, Emily A., 3,437; Lockyer, John, 3,244; Jinks, Eliza, 3,241; Hinton, George, 3,235; Upton, Elizabeth, 3,122. Following the declaration of the poll, Mr. George Monro moved that the candidate George Wilson be elected a pensioner by resolution, owing to the special circumstances surrounding his case. This was seconded by Mr. James Hudson, and carried. Mr. Monro further said that the candidate Albert Harding was in very hard case, and offered a sum of £10 for the benefit of this candidate. It was also announced that Mr. Arthur W. Sutton desired to give a sum of £20 in order to place upon the fund the candidate Edwin Tough. This completed the business of elections.

CATALOGUES RECEIVED.

E. Webb and Sons, Wordsley, Stourbridge: Seeds.
James Carter and Co., Raynes Park, S.W.: Seeds.
J. R. Pearson and Sons, The Nurseries, Lowdham, Notts: Seeds and Sundries.
William Cutbush and Son, Highgate, N.: Seeds.
Barr and Sons, King Street, Covent Garden, W.C.: Seeds.
R. H. Bath, Limited, The Floral Farms, Wisbech: Seeds.
Toogood and Sons, Southampton: Seeds.
Dobbie and Co., Edinburgh: Seeds and Plants.
T. H. Dipnall, The Shelley Sweet Pea Farm, near Hadleigh, Suffolk: Sweet Peas and Snapdragons.
Bees, Limited, Mill Street, Liverpool: Seeds.
Sutton and Sons, Reading: Seeds.
J. Stormonth and Son, Kirkbride, Carlisle: Vegetable and Flower Seeds.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 6s. 6d.; Foreign, 8s. 9d.*

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THE

GARDEN

BETTER ALLOTMENTS.

A WEEKLY
ILLUSTRATED JOURNAL FOR GARDEN
ORCHARD AND WOODLAND

OL. LXXXI.—No. 2360.
ered as Second-class Matter at the New York, N.Y., Post Office.

SATURDAY, FEBRUARY 10, 1917.

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Colours exquisite. **3/9** Carriage paid.

Anne of Geierstein, deep cri.	8d.
Edith Bellenden, rose pink	8d.
Lucy Bertram, rich crimson	8d.
Lady Penzance, soft copper	8d.
Meg Merriles, bright crim.	8d.
Rose Bradwardine,clear rose	8d.

Exhibition Roses

SELECTION "B."

24 specially-selected varieties, superb form, grand colour.

Assured prize winners. **12/6** Carriage paid.

Avoca (ht), crimson scarlet	8d.
Bessie Brown (ht),creamyw.	6d.
British Queen (ht), white	9d.
Chas. Lefebvre (hp),crimson	6d.
Coronation (hp), flesh pink	1/-
Dean Hole (ht), silvery rose	8d.
Earl of Gosford (ht),dk.crim.	8d.
Ethel Malcolm (ht),ivory w.	8d.
Gl.de C.Guinoisseau (hp),ver.	6d.
GeorgeDickson (ht),vel.crim.	8d.
Hugh Dickson (hp), crimson	6d.
J. B. Clarke (ht), crimson	8d.
Jonkheer J.L. Mock (ht),car.	8d.
Leslie Holland (ht),scar.crim	8d.
Mabel Drew (ht),canary yel.	8d.
LyonsRose (ht),shrimp pink	8d.
Mrs. C. West (ht), shell pink	8d.
Mildred Grant (ht),tinted w.	8d.
Mrs.AmyHammond (ht),ap.	8d.
Mrs.AndrewCarnegie (ht),w.	1/-
Mrs.JohnLaing (hp),rosy pk.	6d.
Mrs. J. H. Welch (ht), pink	8d.
Mrs. Roosevelt (ht),pale flesh	8d.
UlrichBrunner (hp),cher.red	6d.

Town Roses

SELECTION "E."

12 sorts proved suitable for growing in smoke.

Immensely successful. **6/6** Carriage paid.

CarolineTestout (ht),sal.pink	6d.
Dr.O'Donel Browne (ht),car.	8d.
F. K. Druschki (hp), white	8d.
George Dickson (ht),crimson	8d.
GustaveGrunerwald (ht),car.	8d.
J. B. Clark (ht), deep scarlet	8d.
La Tosca (ht), silvery pink	8d.
Mme. Ed. Herriot (per), red	9d.
Mme.Ravary (ht),orange yel.	6d.
Mrs.JohnLaing (hp),rose pk.	6d.
Mme. Isaac Pereire (b), car.	6d.
Ulrich Brunner (hp),cher.red	6d.

Tall Bedding Roses

SELECTION "J."

12 vigorous sorts, may be pegged down or grown natural.

Charming colouring. **6/6** Carriage paid.

Gen. McArthur (ht),crimson	8d.
Gruss anTeplitz (ht),crimson	6d.
Gus. Grunerwald (ht),carm.	8d.
Hugh Dickson (hp),crimson	6d.
Lady Hillingdon (t),apri-yel.	9d.
La Tosca (ht), silvery pink	8d.
Mme.A.Chatenay,salm.pink	6d.
Mme. M. Soupert (ht),yellow	8d.
Mrs. R. G. S.Crawford, pink	6d.
Pharisaer (ht), rosy white	8d.
Pce. C.de Rohan,dark crims.	6d.
Souv. de M. Zayas (ht), car.	6d.

Baby Ramblers

SELECTION "O."

12 roses of bushy habit, recommended for beds.

About 1ft. in height. **6/6** Carriage paid.

Annie Miller, dazzling pink	6d.
Canarienvogel, yel. & orange	9d.
Ellen Poulsen, deep rose	8d.
Erna Teschendorf, crimson	8d.
E. Lamesch, orange pink	8d.
Jessie, rose crimson	6d.
Katherine Zeimet, pure wh.	8d.
King Edward VII., rosy car.	8d.
Leonie Lamesch,coppery red	8d.
Mrs. Taft, brilliant crimson	8d.
Mrs.W. H. Cutbush,cher.pk.	6d.
Orleans, geranium red	6d.

Climbers, Ramblers

SELECTION "S."

6 roses suitable for trellis, pillars, arches, pergolas, &c.

All very vigorous. **4/-** Carriage paid.

Alberic Barbier (W.), yellow	9d.
American Pillar (cl., P.),pink	9d.
Blush Rambler (cl.,P.),blush	9d.
Dorothy Perkins (W.), pink	9d.
Excelsa (W.), bril. scarlet	9d.
Hiawatha (cl.,P.), crim.wh.	9d.

Spring Flowers

Hardy Auriculas, mixed 3/- doz.
Sweet Williams, mixed 1/- ,,
Canterbury Bells, mixed 1/6 ,,
,, ,, 3 colours 1/6 ,,
Wallflowers, blood red, yellow, 4/6 100, 9d. doz.
Strong bushy plants, for immediate planting and display.

Border Flowers

"OPAL" SELECTION.

Every one first class. **4/-** Carriage paid.

Mesa Starwort, rich deep blue.
Peach-l'd Bellflower, sky blue.
Mussin's Catmint, soft lavender
Bradshaw's Avens, scarlet.
Dwarf Golden Sneezewort.
Opal Alkanet, sky blue.
Oliver's Sea Holly, steely blue.
Riverton Sneezewort, crimson.
Pearl Achillea, pure white.
Beautiful Stonecrop, rosy pur.
Cambridge Scarlet Bergamot.
Tuck's Red Hot Poker, scarlet, yellow.

Michaelmas Daisies

"LLOYD GEORGE" SELECTION.

Every one a beauty. **3/6** Carriage paid.

Saturn, rich violet.
Peggy Ballard, rosy lavender.
Delight, pure white.
Hilda Morris, pale lavender.
Glory of Colwall, double lav.
Lady Lloyd, rose pink.
St. Egwin, rosy red.
Moonlight, ageratum blue.
G. M. Lewis, deep blue.
Acris, lavender blue.
Heather Bells, white heather.
Novelty, cloudy lavender.

Summer Bedders

18 strong plants. **4/-** Carriage paid.

Instead of bedding out with Geraniums, &c., which have to be renewed every season, try these which last for years.
All 3/- per doz. (of one kind).
3 of each, 18 plants, 4/- car. paid.
6 ,, ,, 36 ,, 7/6 ,, ,,
12 ,, ,, 72 ,, 14/6 ,, ,,
HybridLarkspurs, mix. hybrids.
Hollyhocks, single mix. hybrids.
Opal Alkanet, milky blue.
Dropmore Alkanet, gentian bl.
Tree Lupins, mixed hybrids.
Border Lupins, mixed hybrids.

Rockery Plants

"SUNSET" SELECTION.

25 extra st. plants. **6/6** Carriage paid.

Alpine Erinos, rosy purple.
Yellow Stonecrop, golden.
Wilson's Bellflower, blue.
Basil Soapwort, red.
Sunset Rock-rose, yellow.
Bulgarian Rockfoil, white.
Californian Stonecrop, crim. yel.
Woolly Thyme, lavender.
Pulla Bellflower, deep violet.
Silvery Aubrietia, lilac.
Alpine Cotoneaster, evergreen.
Dub. Evening Primrose, yellow.
Pott's Stonecrop, pink.
Norbonne Flax, blue.
Upright Thyme, lilac.
Californian Rockfoil, white.
Isabel's Bellflower, blue.
Potter's Aubrietia, violet.
Ewer's Stonecrop, yellow.
Rock Cotoneaster, evergreen.
Tom Thumb Spiraea, red.
Haag's Rockfoil, golden.
Basin Bellflower, pale blue.
Lydian Stonecrop, pink.
Stabian Rockfoil, white.

SEED POTATOES

Place your Order at once. There is not only a shortage of potatoes but a very much heavier demand than in any previous season, due to the exhortations of the Government and the Press to increase food production.

PRICES INCLUDE CARRIAGE on 28lb. or more. Offered subject to being unsold.

	14lbs.	28lbs.	56lbs.
EARLY			
Early Puritan, white round	4/0	7/9	15/3
Express (Sharpe's), white oval	4/7	9/0	17/9
Queen Mary, splendid kidney	4/0	7/9	15/3
SECOND EARLY			
British Queen, white oval	4/0	7/9	15/3
Epicure (Sutton's), early white	3/8	7/3	14/3
Great Scott, immune black spot	4/11	9/8	19/0
Lancashire Lass, white kidney	4/0	7/9	15/3
Royal Kidney, heavy cropper	4/-	7/9	15/3
MAIN CROP			
Arran Chief, tip-top every way	4/7	9/0	17/9
Champion, fine white oval	3/8	7/3	14/3
Duchess of Cornwall, record cropper	4/0	7/9	15/3
Evergood, oval, fine flavoured	3/8	7/3	14/3
Factor, prolific, fine flavour	4/0	7/9	15/3
King Edward, kidney, fine	3/3	6/3	12/3
Up-to-date, large white oval	4/0	7/9	15/3

SPECIAL OFFER OF SEED POTATOES.

For the present, while stocks hold out, Bees Ltd. will supply 14lb. Early, 14lb. Second Early, 28lb. Maincrop, Bees' selection of varieties for 12/6, half quantity 7/-, double quantity (total, 1cwt.) 24/-, all carriage paid.

When ordering, say whether Irish, Scotch, Lincolnshire, or Cheshire-grown seed is preferred. If no preference is stated, Bees Ltd. will send what is best suited to your locality.

VEGETABLE SEEDS in 1d. packets

"A" Collection. 13 Choice Vars. **1/2** Best Strains. Post Free.

Curled Parsley. 1,000.	Cabbage Lettuce, 1,500.	Snowball Turnip, 2,000.
Student Parsnip, 750.	Altrincham Carrot, 750	Early Horn Carrot, 750.
Spring Cabbage, 500.	Telegraph Cucumber, 2	Crin. Globe Beet, 200.
Pk. Celery, 2,500.	Long Wh. Marrow, 12.	Lyon Leek, 400.
	Ailsa Craig Onions, 300.	

"B" Allotment Collection. **2/3** Post Free. 26 Varieties.

Broccoli, 350 s.	Cos. Lettuce, 1,000 s.	White Turnip, 2,000 s.
Leek, 400 s.	White Celery, 2,500 s.	Brussels Sprouts, 400 s.
Turnip, 2,000 s.	Keeping Onion, 300 s.	Parsley, 1,000 s.
Spinach, ½oz.	Champion Onion, 300 s	Mustard, ½oz.
Red Cabbage, 500 s.	Radish, 1,000 s.	Cress, ½oz.
Bush Marrow, 12 s.	French Bean, 100 s.	Ailsa Craig Onion, 300 s.
Parsnip, 750 s.	Pickling Onion, 400 s.	
Tomato, 50 s.	Savoy, 500 s.	Long White Marrow, 12 s.
Beet-root, 200 s.	Cauliflower, 300 s.	
	Carrot, 750 s.	

SHALLOTS

Spendid hand-picked bulbs, firm and sound, no waste. 4lb. 2/6, 7lb. 4/-, 14lb. 7/6, carriage paid. Send your order now. Shallots are likely to become very scarce and high in price.

SWEET PEAS

"Mersey" Collection, 15 seeds each. **1/9** Post Free. 12 Varieties.

Dobbie's Cream.	King White.	Barbara, salmon.
Sunproof Crimson.	Queen of Norway, mve.	R. F. Felton, lav.
Royal Purple.	Stevenson, orange.	America Spencer.
Rosabelle, rose.	Hercules, pink.	King Manoel, maroon.

"Liverpool" Collection, 15 seeds each. **11D.** 6 Varieties. Post Free.

Mrs. Cuthbertson, white.	Dobbie's Scarlet.
John Ingham, carmine.	Margaret Atlee, pink.
Edrom, Beauty, orange.	Constance Hinton, wht.

BEES "LANCASHIRE" COLLECTION, 15 Seeds.

18 varieties, 2/3, post free. This collection consists of the 18 varieties named above, and one packet of Gypsophila Elegans.

FLOWER SEEDS

"O" Collection, 13 Annuals. **1/2** Cutting or Border, Post Free.

Sweet Sultan, 100 s.	Linaria Excelsior, 1,000 s.
Shirley Poppy, 1,000 s	Crim. Eschscholzia, 500 s.
Scarlet Flax, 1,500 s.	Yell. Eschscholzia, 1,000 s.
Pk. Everlasting, 300 s.	Blue Cornflower, 300 s.
Dimorphotheca, 25 s.	Scotch Marigold, 250 s.
Wh. Gypsophila, 1,000 s.	Giant, Wh. Candytuft, 200 s.
Tricolour Chrysants., 500 s.	

Similar Collections of Seeds 1/2 each, post free.

"C" Collection	....	13 Annuals for Sunny Positions.
"D" ,,	....	13 ,, ,, Shady Positions.
"J" ,,	....	13 ,, ,, Cutting Ros.
"M" ,,	....	13 ,, Dwarf for Edging.
"W" ,,	....	100 seeds each, 7 10-week Stocks.
"H" ,,	....	packet each 13 Asters.
"F" ,,	....	packet each 13 Antirrhinums.

If possible, make up your order from this advertisement. It is the most economical way to buy what you want.

A.B.C. OF ROSE CULTURE, 2d.

Booklet of 32 pages; tells you all you are likely to want to know about roses. 2d. stamps with catalogue, order or alone.

Bees Ltd

175c Mill Street LIVERPOOL

SATISFACTION GUARANTEED
All goods are sold on approval for cash with order. Bees Ltd., guarantee to return money in full if you are not satisfied.

PRICES INCLUDE CARRIAGE
All collections, when ordered complete, will be delivered carriage paid, when cash is sent with order.

COLOUR Pictures Speak BETTER than words. 28 pages of Natural Photo-Colour Pictures in Bees' Catalogues help you to select just the sorts of Seeds, Roses and Plants you want. Catalogues post free.

SEEDS

FOR REALLY GOOD

VEGETABLE SEEDS

AT MODERATE PRICES, SEND TO

ROBERT SYDENHAM LIMITED, 99, TENBY STREET, BIRMINGHAM.

NO ONE WILL SERVE YOU BETTER.

A FEW PRICES FOR THE CHOICEST STOCKS FOR 1917.

PEAS (All Selected Stocks).	Per pint.
GRADUS (3ft.), the best early marrow pea	11d.
LITTLE MARVEL (Dwarf), extra large pods	11d.
MAY QUEEN (2½ft.), grand first early Marrowfat	1s.
DWARF DEFIANCE (2½ft.), finest dwarf maincrop	1s.
CLIPPER (5ft.), grand new maincrop, strongly recommended	11d.
UNIQUE (2½ft.), good flavour and very prolific	10d.
DUKE OF ALBANY (5ft.), grand for general use & exhibition	11d.
AUTOCRAT (4ft.), one of the best late peas in cultivation	11d.
PRINCE OF WALES (3½ft.), the general favourite	9d.

BEANS.	
IMPROVED LONGPOD, best broad bean for general use	9d.
CANADIAN WONDER. Dwarf French, very prolific	9d.
CHAMPION SCARLET RUNNER, selected stock	11d.

BEET.	Per oz.
CHELTENHAM GREEN LEAVED, the best for flavour	10d.
PRAGNELL'S EXHIBITION, large well-shaped roots	9d.
EARLY MODEL GLOBE, the finest round variety	8d.

All other leading varieties same price.

BORECOLE, or KALE.	
DWARF GREEN CURLED SCOTCH, the best dwarf	4d.
COTTAGERS' KALE, one of the hardiest	4d.
ASPARAGUS, delicious flavour	4d.

BROCCOLI.	
VEITCH'S SELF-PROTECTING AUTUMN	1s.
SNOW'S WINTER WHITE	1s. 9d.
SPRING WHITE, very hardy; specially selected	1s. 6d.
LATE QUEEN, the best late Broccoli	1s. 3d.

BRUSSELS SPROUTS.	
THE WROXTON, the very best	6d.

CABBAGE.	
ELLAM'S EARLY DWARF SPRING	8d.
FIRST AND BEST, for Autumn sowing	8d.
BEST OF ALL (SAVOY), early, and strongly recommended	8d.

CARROT (Cleaned Seed).	
EARLY GEM, for forcing	8d.
EARLY NANTES, best for early crop outdoors	8d.
JAMES' SCARLET best selected	6d.
SCARLET INTERMEDIATE (St. Valery), best exhibition	6d.

CAULIFLOWER.		
DEAN'S EARLY SNOWBALL, best selected strain	per pkt.	6d.
ALL THE YEAR ROUND, very distinct, large heads	,,	6d.
EARLY LONDON, best for general use	per oz.	1s. 6d.
WALCHEREN, fine, large close white heads	,,	1s. 6d.
VEITCH'S AUTUMN GIANT, best for Autumn	,,	1s. 6d.

CELERY.	Per pkt.
STANDARD BEARER, the finest flavoured red	3d.
BIBBY'S DEFIANCE, the best white	3d.
WHITE GEM, finest dwarf white	3d.

LEEK.	Per oz.
THE LYON, best and largest	1s. 2d.
MUSSELBURGH, excellent for general use	1s.

LETTUCE.	
ALL YEAR ROUND, excellent and reliable	6d.
CONTINUITY, very crisp and tender	6d.
ICEBERG, one of the best for spring or summer	6d.
UNIQUE, pretty frilled foliage, very tender	8d.
WONDERFUL, keeps tender a long time	8d.
GIANT PARIS WHITE (Cos), best for summer use	6d.
BALLOON (Cos), largest of all	6d.

ONION.	
EXCELSIOR (True) (packets, about 1,000 seeds, 6d.)	2s.
AILSA CRAIG (packets, about 1,000 seeds, 6d.)	2s.
BEDFORDSHIRE CHAMPION, fine oval shaped, good size	1s.
WHITE SPANISH, or READING	1s.
GIANT ZITTAU	1s.

PARSNIP.	
HOLLOW CROWN, Specially Selected	3d.
STUDENT, good size and shape	2d.

RADISH.	
FRENCH BREAKFAST, best oval shaped, early	3d.
WOOD'S EARLY FRAME, best long-rooted	3d.
ICICLE, long white, excellent flavour	3d.
MIXED TURNIP, best for summer use	3d.
SPARKLER, unique scarlet and white	3d.

SHALLOTS.	
BEST SELECTED ROOTS	per lb. 9d.

SPINACH.	
VICTORIA, LONG-STANDING SUMMER	2d.
PRICKLY-SEEDED, or WINTER	2d.

TOMATOES.		
HOLMES' IDEAL, specially recommended	per pkt. (200 seeds)	3d.
HOLMES' SUPREME, heavy cropper	,, ,, (200 seeds)	3d.
UP TO DATE, good and popular variety	,, ,, (200 seeds)	3d.
EARLY DAWN, very early, good outdoors or in	,, ,, (200 seeds)	4d.

TURNIP.	
MODEL WHITE STONE	3d.
RED GLOBE	3d.
GOLDEN BALL	3d.

THE 5/- COLLECTION OF VEGETABLE SEEDS

SUFFICIENT FOR AN AVERAGE VILLA GARDEN, CONTAINS:

BEANS, BROAD	½ pint	CABBAGE, Best of All	½ oz.	ONION	½ oz.
BEANS, KIDNEY	¼ ,,	CARROT, Scarlet Inter.	½ ,,	PARSLEY	½ ,,
PEAS, Early (Gradus)	½ ,,	CELERY	½ ,,	PARSNIP	½ ,,
PEAS, Maincrop	½ ,,	CRESS	1 ,,	RADISH	½ ,,
BEET, Pragnell's	½ oz.	LEEK, Musselburgh	¼ ,,	SPINACH	1 ,,
KALE dwarf curled	½ ,,	LETTUCE	½ ,,	TURNIP, White Stone	½ ,,

PACKAGE AND POSTAGE FREE.

SEED POTATOES

FULL LIST WITH PRICES, POST FREE.

SWEET PEAS A SPECIALITY.

No Flowers give so much cut bloom at so little cost and trouble as Sweet Peas.

EACH PACKET IN Nos. 1, 2, AND 3 CONTAINS 25 SELECTED SEEDS.

COLLECTION No. 1.—12 Best Grandiflora Varieties, 1/-

COLLECTION No. 2.—12 Good Waved Varieties, 2/-

COLLECTION No. 3.—12 Best Waved Varieties, 2/6

COLLECTION No. 4.—12 Newer Waved Varieties, 3/6

COLLECTIONS Nos. 3 and 4 MAY BE HAD TOGETHER FOR 5/6

SPECIAL PRICE FOR THE THREE WAVED COLLECTIONS, 7/-

OR FOR THE WHOLE FOUR COLLECTIONS, 7/6

FULL LIST OF FLOWER AND VEGETABLE SEEDS

WITH CULTURAL INSTRUCTIONS, POST FREE ON APPLICATION.

ROBERT SYDENHAM LIMITED, 99, TENBY STREET, BIRMINGHAM.

THE GARDEN.

No. 2360.—Vol. LXXXI. February 10, 1917.

NOTES OF THE WEEK

MOST people, we learn, are taking the precaution of securing their seed Potatoes without delay, and in view of the unquestionable shortage this course is one to be strongly recommended, especially as it is probable that there will not be enough seed Potatoes in the country to supply the enormously increased demand. The public should also distinguish between seed Potatoes offered by the leading seedsmen, which have been carefully cultivated for the purpose and kept true to name, and the ordinary farm stocks grown without special care and often very much mixed.

Retail Prices of Seed Potatoes.—Mr. Charles E. Pearson, the secretary of the Horticultural Trades Association, writes to inform us that the announcements in the Press regarding prices of seed Potatoes are altogether premature and extremely misleading, with the result that the gardening public has been led to expect drastic reductions in retail prices. It is therefore necessary that it should be made known that practically all seedsmen had contracted or bought, and in most cases obtained delivery of, their season's supply of seed Potatoes, at prices which are in some cases more than 50 per cent. higher than the maximum figure reported in the Press, weeks or months before the question of the limitation of prices of seed Potatoes was mooted. It will therefore be impossible for these seed Potatoes to be sold retail at anything less than the prices already printed in their catalogues.

Early Potatoes in South-West Scotland.—British Queen, Epicure and Ninety-fold are among the Potatoes most favoured by many South-West of Scotland gardeners for early crops. British Queen and Epicure are both classed by some as second earlies, but owing to the climatic conditions they are employed with advantage as first crops in the district. Epicure is highly spoken of, and has given excellent results; while Ninety-fold is also a first-class Potato, though some complain that the tubers used for seed do not cut up satisfactorily. As many, however, favour whole sets, this is of little consequence to them.

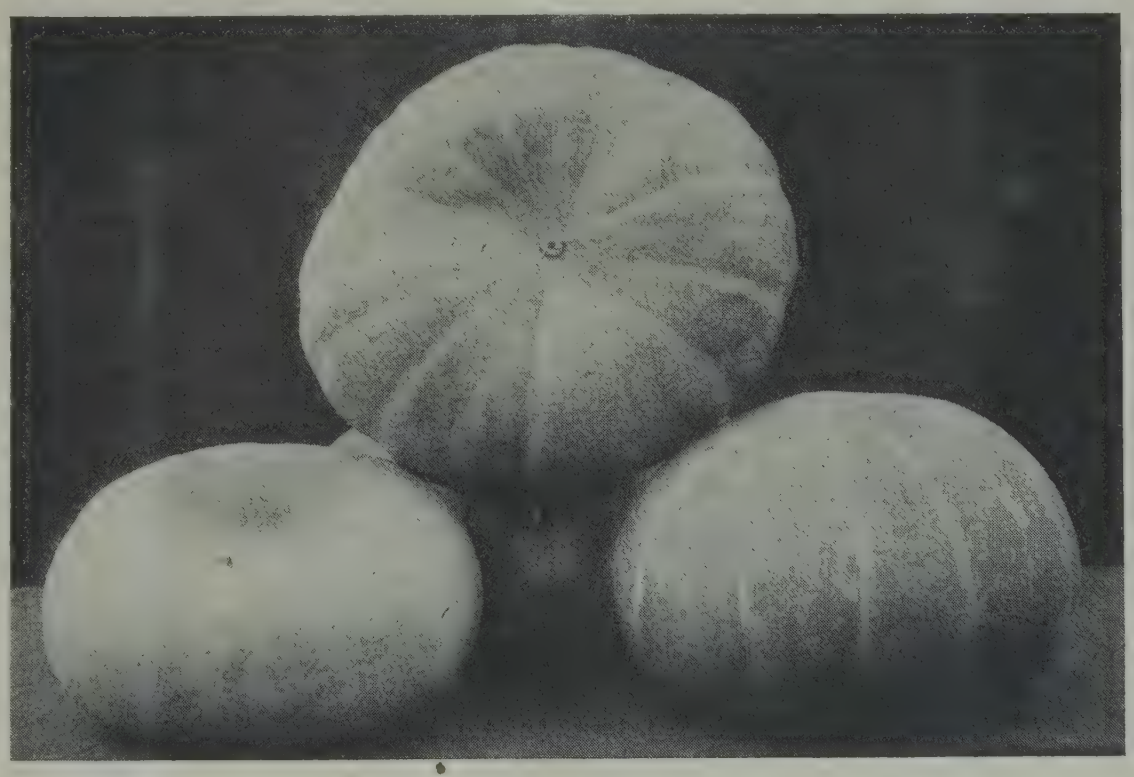
Mr. C. H. Curtis.—We learn that Mr. C. H. Curtis, formerly editor of the *Gardeners' Magazine*, has been appointed secretary to the British Wholesale Florists' Federation. The Federation hope soon to have permanent offices in Covent Garden. The temporary address is care of Mr. George Monro, jun., Tavistock Street, Covent Garden, London, W.C.

The War Loan.—Among the numerous subscribers in the Midlands, we are glad to observe the firm of Messrs. Edward Webb and Sons (Stourbridge), Limited, the well-known seedsmen, have invested the sum of £20,000.

National Sweet Pea Society.—The committee of this society have decided to abandon the novelty trials of Sweet Peas for the present year, owing to the shortage of labour and the land being required for the production of food.

Sowing Parsnips.—Deeply trenched soil—following a Celery crop, for example—affords a suitable place to grow Parsnips. Sow the seeds in drills 15 inches apart towards the end of the month, selecting a dry day. If extra large, clean, straight specimens are desired, make holes 3 feet deep and 18 inches apart with an iron bar, filling up the holes with a prepared compost of light, rich soil and sowing three seeds on the top of each.

Pumpkins.—To show the value of the keeping properties of well-ripened Pumpkins as a winter vegetable, the accompanying illustration of fruits, which are in a perfectly sound condition, has been prepared from a photograph taken on January 12. The public do not realise the worth of Pumpkins, especially in these times, as when nicely cooked and served they are generally much appreciated, and we would urge their more extended cultivation. We are quite alive to the fact that this is no new idea, as we well remember prizes being offered years ago at local shows for the heaviest Pumpkins, but the fact remains they have never been grown for supplying the general public. Only in quite rare instances do we see them in the shops offered for sale, and then often at a prohibitive price. We are convinced that if shopkeepers would more generally offer them for sale at a reasonable figure, cutting them up like cheeses and selling them by the pound, there would be a great future for them, as, unlike many other things, when once cut they keep for a considerable time in good condition. The Mammoth is the best for the purpose.



THE MAMMOTH PUMPKIN.

A useful winter vegetable that may be cut like a cheese and sold by the pound.

The Cultivation of Pumpkins.—This is quite simple, as if raised and treated like Vegetable Marrows and grown in a sunny position, success is assured with very little trouble. They should be planted on fairly rich ground, or even on the rubbish heap, and kept well supplied with water. After the fruits commence to swell, expose them as much as possible to the sun by elevating them above the foliage on boxes or some other medium. For training on pergolas or buildings Pumpkins are highly ornamental and productive, but the fruits, of course, must be supported by some means or other.

*** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

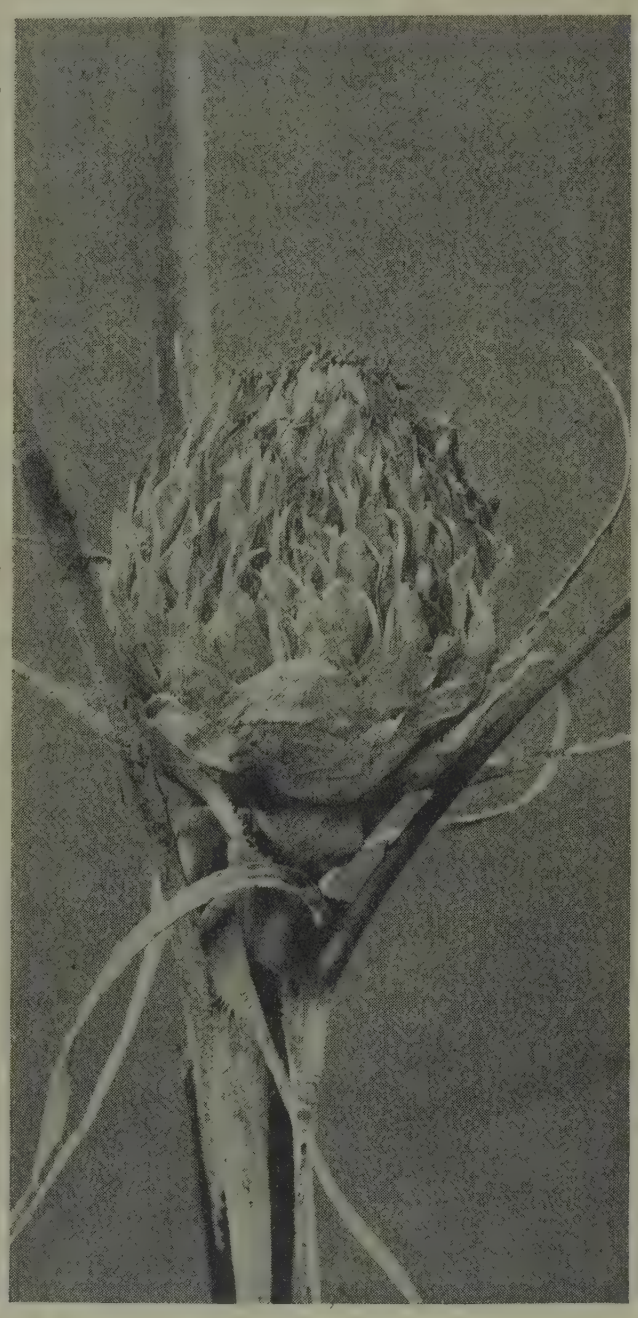
(The Editor is not responsible for the opinions expressed by correspondents.)

Ilex Hodginsii.—Of about fifteen varieties of Holly here, most of them berry-bearing, Ilex Hodginsii alone has the unusual characteristic that its berries, which it unfailingly produces every year, are rarely eaten by birds, and each summer the old berries on two large bushes are to be seen on the same branches with the new green ones. This winter, however, and only this week, owing to continued snow, the birds have at last cleared them. All the other kinds of Holly were stripped two months ago.—J. H. W. THOMAS, *Belmont, Carlow.*

Sweet Pea Moneymaker.—In your issue of the 3rd inst. there is a note by the Rev. J. Jacob in praise of Moneymaker, as against King White, as a scented variety. Being anxious to obtain a Sweet Pea with such a recommendation, I sought my copy of the Sweet Pea Annual for 1917. A search through the advertisements failed to reveal where the seed could be obtained. I therefore looked through the body of the volume, more particularly under the headings "Classification of Sweet Peas," "General Audit" and "First Prize Audit." Moneymaker was ignored by all, and it was not till I reached the list of "Too-Much-Alike Varieties" that I discovered Moneymaker bracketed with King White and a host of others. The question of scent evidently does not count with the ruling authorities of the National Sweet Pea Society. One or two 1917 seed catalogues failed to take any interest in Moneymaker, but I found it mentioned in a catalogue of 1916. I suppose each grower has his own particular white, for I notice in one of the advertisements in the Annual that, although some thirty or more varieties are named, none of the whites included in the above-mentioned lists appears; so if there is a white included in the advertisement, it must be under yet another name. At the head of the list of "Too-Much-Alike Varieties" the general committee state: "It must be clearly understood that the varieties bracketed together are not necessarily synonymous, or of equal merit." Not very helpful to the amateur. A list of those which are synonymous would be more useful.—G. L. A. D.

Flowers for Bees.—I have had a fearful fight with my conscience (which, bother it! is for ever putting the brake on my inclinations) concerning flower seeds, for this year I want a profusion, as usual. Old Puritan Conscience says I "ought not to spend money on them"—"and so, forsooth," said I, "help to ruin our poor nurserymen. How extremely patriotic!" At last we came to a compromise and agreed that only flowers useful to bees should be bought. This lets in a lot of *really blue* flowers, which I love (not the purples, mauves and lavenders falsely called "blue" by florists). Here are some of the bees' favourites, and some of mine also: Ambrosia, Asperula azurea setosa, Cerinthe, Collomia, Cornflower, Eutoca viscida, Helichrysum, Larkspur, Mignonette (Aha! old Conscience!), Nasturtium, Nigella Miss Jekyll and N. damascena, Phacelia campanularia, P. congesta and P. tanacetifolia, Shirley Poppies, Stocks (Oh, my poor Conscience!), Sunflowers, Sweet Peas (Conscience, you *did* make a bad bargain!), Sweet Sultan, Viscaria cærulea and Zinnias. Will any kind readers who are acquainted with bees help me to some more good bee flowers which can be sown to flower this year?—ANNE AMATEUR.

Rhodostachys andina.—The accompanying illustration is of an inflorescence of a plant believed to be Rhodostachys andina, which has been growing for some time in Messrs. Barr and Sons' Rosemorran Garden, near Penzance. When they took over the garden in 1910 from Mr. Charles Dawson, this plant was found, among others, on a small rock garden which Mr. Dawson had made, but it looked very weak and not likely to survive. In the autumn of 1915 the plant was removed to another small rock garden which had been newly



RHODOSTACHYS ANDINA, A HEAD OF SILVERY GREY AND PALE ROSE BLOOM.

made, and since then has made vigorous growth, forming a rosette of long, fleshy, white-powdered foliage with marginal spines. In September last nine heads of bloom were produced from between the foliage. These with their pretty silvery grey and pale rose colour were remarkably attractive. As far as can be ascertained, the plant is supposed to have originated from seed collected in Chile by Mr. H. J. Elwes. Although always described as requiring stove treatment, this plant, which is now 10 feet in circumference, has, without any protection, passed through five winters in the garden referred to and been subjected to a certain amount of frost.—P. R. B.

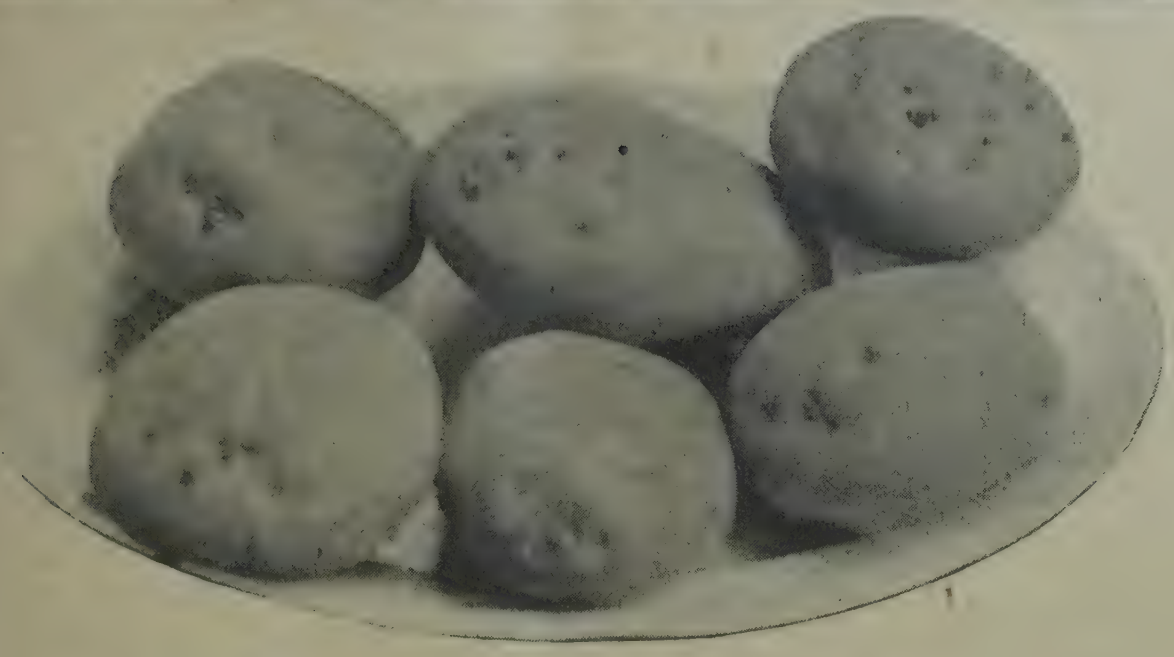
Coldest January.—A meteorological correspondent of the *Birmingham Post* sends to that newspaper the following interesting account of winter frosts recorded at Sparkhill since 1895, from which it will be seen that there has been no January in that period showing so long a spell of unbroken frost:

Longest periods when the Thermometer was continuously below Freezing Point.		*Lowest Temperature.*
January, 1917	11 days	23·5
February, 1912	4 ,,	16·3
March, 1909	3 ,,	11·3
December, 1908	3 ,,	11·0
January, 1907	3 ,,	13·0
,, 1903	5 ,,	16·0
December, 1902	3 ,,	18·0
January, 1901	4 ,,	16·0
December, 1899	2 ,,	9·0
March, 1899	3 ,,	19·0
December, 1895	3 ,,	26·0
February, 1895	13 ,,	1·0
January, 1895	6 ,,	15·0

The mean temperature of January, 1895, was 29·5; that of January, 1908, 35·3; and that of January, 1916, 33·5. At several points near here the Severn is frozen right across, but on Saturday, February 3, the wind changed to the south-west, and to-day (February 4) snow has fallen to the depth of 2 inches and the temperature has risen considerably.—ARTHUR R. GOODWIN, *Kidderminster.*

Lime and Potatoes.—The interesting letters that have appeared in THE GARDEN dealing with the use of lime and manures for Potatoes should prove very useful at the present time. In regard to the controversy as to whether lime should be used directly for a Potato crop, I would suggest that the soil will have a distinct bearing upon the matter. Many farmers that I know are very much against the use of lime for Potatoes, as they are of the opinion that it encourages scab and other diseases of the tubers. This may be accounted for, perhaps, in that the lime may neutralise substances in the soil which are in themselves checks to the growth of diseases, and especially so in the case of diseases caused by bacteria. On the other hand, in garden soils containing plenty of organic matter the use of lime as assisting Potato ills is not so obvious, as the organic matter would have neutralised the lime to a great extent before the Potato tubers develop. In using lime for crops, I find that the Cabbage tribe and Peas and Beans are far more in need of lime than root crops and Potatoes.—A. D. T.

Cold Frames for Allotment Holders and Cottagers.—Now that extended vegetable culture is really likely to become an accomplished fact in this country, may I urge the necessity and importance of cold portable frames, for use on even small gardens and allotments? Their value can hardly be overestimated, as there is no day in the year when these cannot be occupied by something or other. For raising early seedlings of many kinds of vegetables they are invaluable, and soon save their cost by doing away with the need for buying plants from other sources, the latter frequently being poor plants and bad stocks. Following this, the lights can be utilised for the cultivation of Cucumbers, Tomatoes and such like requiring the aid of glass; and during the winter the frame may be profitably used for wintering many autumn-sown vegetables, such as Lettuce, Cauliflowers, Parsley, &c. Very little experience is needed to make one efficient in dealing with a frame.—E. BECKETT.



THE CHAPMAN.

Hybrid Freesias.—I am afraid I cannot throw much light on the question of the new hybrid Freesias refusing to start, as I have never experienced that difficulty here, though I am still of opinion that a too severe baking in pots, followed by a too cold douche of water when potted, is the reason of bulbs not starting, as in the open ground such a thing does not occur. The hybrid Freesias are, however, much tenderer here than the type, for they tend to disappear in the open ground; while Freesia refracta is an irrepressible weed, delightful though it be. So I have potted up the varieties I like best and keep them under cover during heavy cold rains or possible frosts, and I shall find out by and by if that is the secret of their well-doing here.—E. H. W., *Nice.*

Those Immune Potatoes.—Respecting the list of Potatoes issued by the Board of Agriculture, it may perhaps be as well to point out that this list is solely for the benefit of those unfortunates who know their land is infected with wart disease. In the free districts one may plant either of these immune varieties or others not so proved, assuming, of course, any variety not immune has proved profitable. Touching upon the immune list, one naturally assumes that in these times the Board of Agriculture's object is to encourage everyone to grow Potatoes suitable for food. Under the circumstances I am disposed to ask why notoriously poor or even bad quality Potatoes are put forward? Such varieties as Mr. Bresse and Adirondack are purely show Potatoes. If one were compelled to fall back on Mr. Bresse, I guess Potatoes as food would soon become a back number. Those who look for a crop should not try Golden Wonder, for it is very uncertain. Its marvellous quality outweighs many of its failings, but quality alone will not fill the pot.—T. A. W.

Dianthus Allwoodii.—I am most interested in your description of the new race of plants, Dianthus Allwoodii, particularly so because in the autumn of 1914, with a well-known horticulturist, I was permitted to see some of the seedlings in the trial grounds in the nurseries of Messrs. Allwood at Hayward's Heath, and so have been patiently waiting for their advent. It is not a sight I shall readily forget, one bright September morning seeing the wealth of bloom and revelling in the rich perfume of thousands of these beautiful plants; but I believe some of the recent developments are even more wonderful. I am a little surprised that Mr. Douglas should suggest that Messrs. Allwood Brothers, with the sanction of the Royal Horticultural Society, should resurrect an old plant under a new name. With my limited knowledge of horticulture I could appreciate the great superiority of Dianthus Allwoodii over the common Pink, and if Mr. Douglas had seen them growing as I did he would agree with me.—A LADY GARDENER.

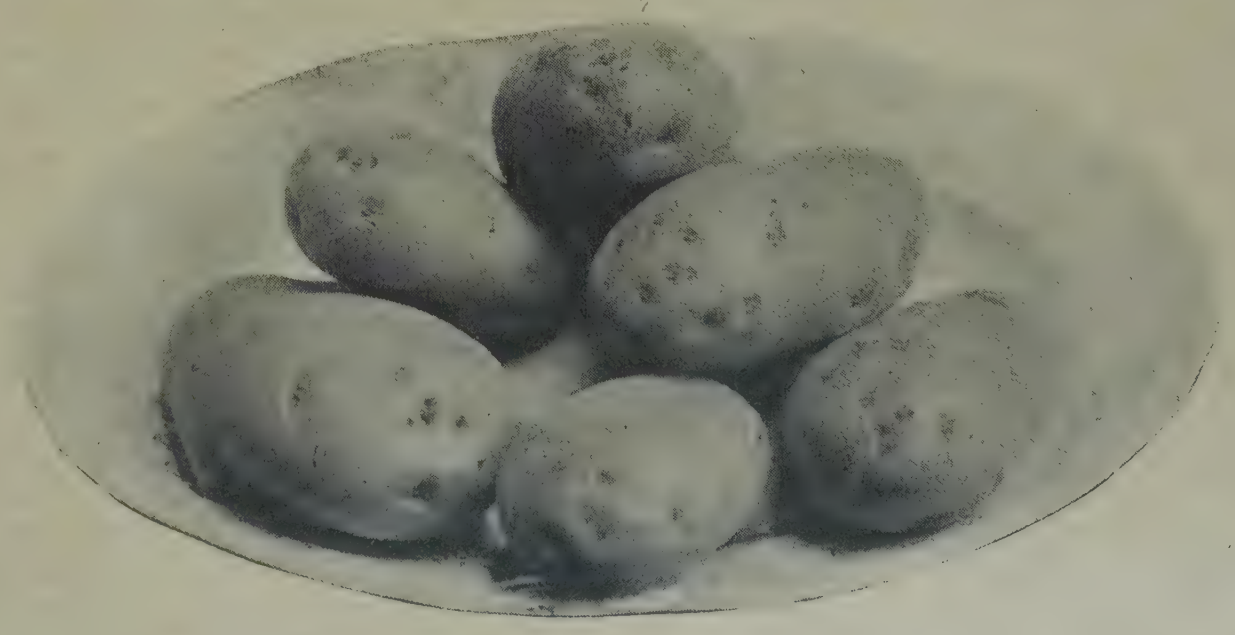
—— It hardly seems necessary to reply to Messrs. Allwood's rejoinder, for the hon. secretary of the scientific committee seems to have very effectually done so in his communication printed above their letter in the issue of January 27; and as your correspondents justly observe, "no one will venture to challenge the wisdom," &c. I merely wished to point out that Messrs. Allwood's claim was perfectly unjustified by facts, and that we have been making these crosses for ten years and have already sent out over twenty varieties. The hon. secretary of the scientific committee confirms that statement in every detail in the letter which you have published. One more point, please. Messrs. Allwood evidently unwittingly fell into a snare that I had no intention of setting, and if they will again read my letter, they will conclude I did not set. Captain Hill-Poë to my knowledge raised but the one hybrid, Rubican; so how Messrs. Allwood can say that they have tested many of his varieties seems to suggest that the diverse crossing and recrossing they affirm has confused their understanding.—JAMES DOUGLAS.

SIX POTATOES FOR LIGHT SOIL

OWING to the great increase in the number of Potato-growers, it is quite possible that many intending planters will be unable to purchase seed sets of one particular variety, and where these are ordered from a distance and substitutes have to be made without the consent of the person ordering, owing to the unsuitability of the soil to the variety sent, the resulting crop often leaves much to be desired. To guard against this unsatisfactory substitution, it is well, when ordering those varieties particularly wished for, to give the names of others which would be equally as satisfactory to the intending grower, should the particular variety first mentioned be out of stock.

Ever since the early days of the boom in Potatoes I have taken a little more than ordinary interest in these, and can safely say that during the past twelve years upwards of a hundred different varieties, or, to be correct, so-called different varieties, have come under cultivation in these gardens, always with a view to test their cropping, cooking and good-keeping qualities, usually growing ten or more varieties each year, these obtained from various sources; and I in turn have sent scores of varieties to gardening friends in various parts of the country whose soil was of a different nature to my own, asking to be acquainted with the results. It has proved most interesting, and the varying results recorded give unmistakable proof of the value of certain varieties for certain soils; yet, after making full allowance for the effect of seasons, I select the following half-dozen as being likely to give the greatest satisfaction to anyone requiring a variety for soils of a very light nature:

The Chapman.—I give this variety first place, having had it under observation since its introduction, and when Dobbies favoured me with a few sets for trial I was much struck by their unusually large size; the covering note explained that small tubers were rarely found if the crop was allowed to mature. These sets carried one strong shoot each, this as thick as an ordinary pencil, and when the roots were lifted early the following September the majority were much above the average size, some being really



THE COLLEEN.

MARSLAND QUEEN.

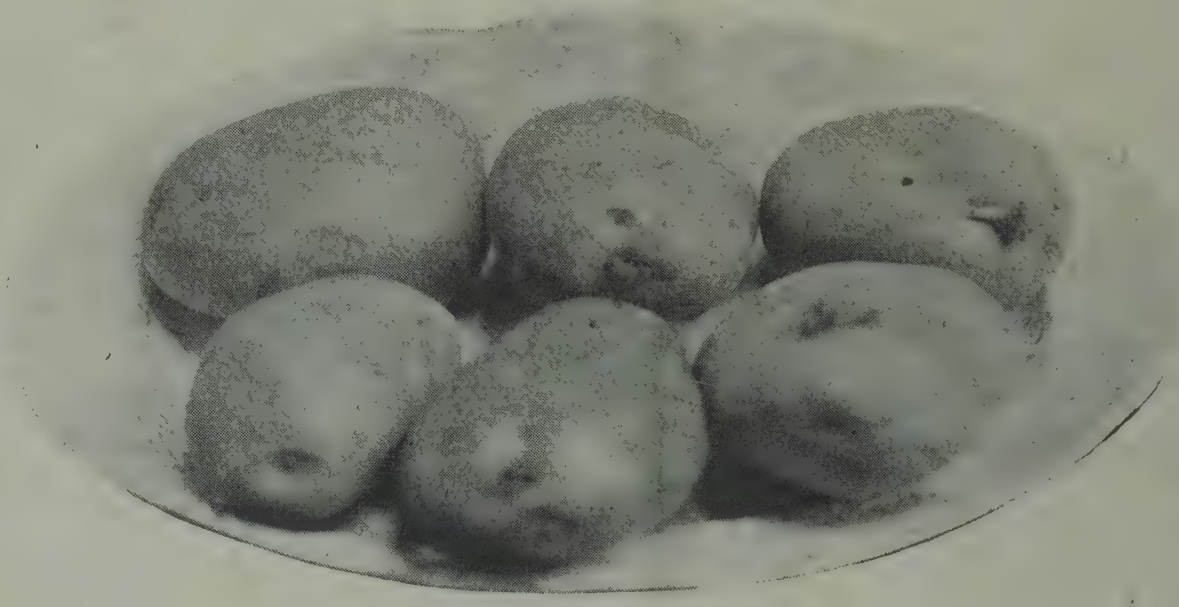
enormous; yet, when cooked, not one of these showed the objectionable hollow centre so characteristic of many varieties noted for the large tubers they produce. Since that year a few rows of this variety have always been grown here, and never has The Chapman failed to come up to expectations.

The Colleen.—Although not a new variety, very many Potato-growers are still unaware of the value of this introduction from the Emerald Isle. Like the above, it has much to commend it to those who grow for large tubers, although the shape of these is not so handsome. I find it does exceptionally well on our hot, sandy soil; while a neighbouring gardener, who, previous to coming here, for many years had grown vegetables largely in the Birmingham district, where the soil is of a different nature, declares that as a maincrop variety The Colleen bids fair to oust all others in the district. If grown on heavy soils I note the tubers come of rather irregular shape, but I have never once heard a complaint regarding the number or weight of the crop, and as a cooker it is splendid.

Marsland Queen.—In this we have a Potato which does exceedingly well, and a few seasons back, when the continued drought caused the collapse of very many weak-growing varieties, this stood out most prominent on a very exposed part of our ground, upon which over a dozen varieties were being given a trial; and when lifting the crop we were so struck by the difference between the results that all were carefully weighed. The short row of Marsland Queen, the seed tubers of which numbered six and weighed a trifle under twenty ounces, gave us over seventeen pounds of tubers fit for the table and three pounds of "chats." The heaviest tuber was slightly over three-quarters of a pound, and the greatest number per root, forty. It is an extra strong grower, and if planted on rich ground must have plenty of room between the rows.

Queen Mary.—As a second-early we find this to be far superior to either of those which have so long held premier place in this section. Last year, even from home-saved seed, selected from stock procured three years previously, the crop was far heavier than that from Snowdrop, British Queen, or Royal Kidney. On another patch planted with Scotch seed the results were much better. It is a remarkably good keeping variety, and we find very little disease. When cooked, the quality of the tubers should commend it to those who prefer a close-eating variety, yet it is quite unlike those close-eaters more suggestive of balls of soap.

Balmoral Castle.—This is one of the heaviest croppers sent out by Suttons for several years, and both in 1914 and the following year our crop averaged well over a sack to the pole. Last year a friend living four miles from us, having a slightly heavier soil to deal with, planted sets from our own-raised stock, and in September dug a single root, beneath which were 108 tubers of various sizes; several others on the same patch gave from fifty to seventy, more than half being of table size. Like the last named, it is on the "close" side when cooked, but not that insipid, watery taste which is characteristic of many.

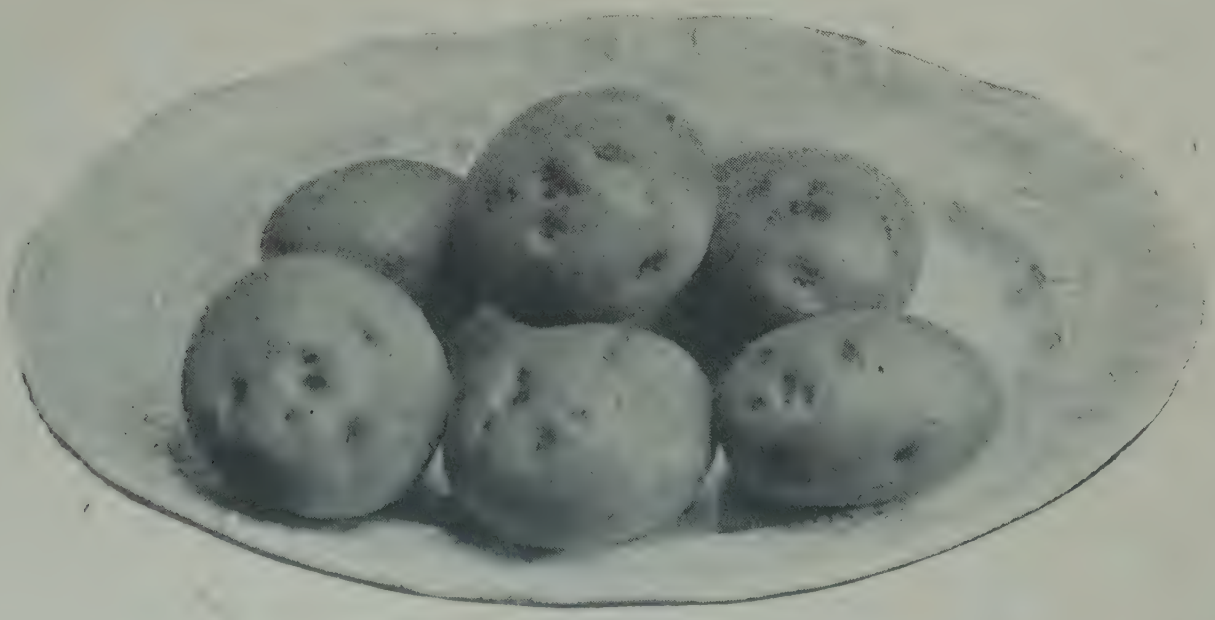


QUEEN MARY.

Eighty-fold.—Among coloured rounds, no variety grown by us has given better results than this, and I can confidently recommend it both as an exhibition and table variety. A few seasons back we planted six tubers, obtained with several other coloured rounds from Scotland; these weighed almost a pound, and at the time of lifting, the second week in August, the tubers selected for storing turned the scale at eleven and a half pounds, quite a large number being left for the fowls.

I am fully aware that, in face of the sensational crops said to have been lifted in some quarters last year, the above weights are not extraordinary; but when it is remembered the soil upon which they were grown is little better than a sand heap, and not more than half the usual quantity of manure is added, it speaks well for the varieties. Moreover these six are selected from upwards of a hundred different varieties which I have grown during the past twelve years. Others could be mentioned which, owing to much advertising, are more popular, but which proved unworthy compared with the foregoing.

Oxford. F. R. CASTLE



EIGHTY-FOLD.

INCREASED VEGETABLE PRODUCTION

By EDWIN BECKETT, V.M.H.

THE accompanying illustration shows a scene of busy labour which is now taking place at Aldenham Park, Elstree, Herts, where a tract of rough pasture-land, of an extent of about thirty acres, forming part of the park, is being ploughed up with a view to assist in increasing the nation's food resources. The step has necessitated a considerable amount of preliminary work in the shape of ground clearing, and this having now reached the stage of completion, the ploughing teams are hard at work running the long furrows which will assist in turning land that was practically useless into ground arable and food bearing. The top soil is a heavy loam lying on a subsoil of very stiff clay, and possessors of similar ground need have no apprehension as to its utility, or of other apparently even more useless tracts

For many years now I have been continuously advocating the increased utilisation of the vast tracts of waste ground seen all over the country. There have been a few other "voices crying in the wilderness." but unfortunately too few to wake up the nation to the needs of far greater home production of food supplies, and it has taken the great and serious days of this dreadful world war to at last drive home the lesson; and even then nearly two and a half years have elapsed before the real seriousness of the problem has led the Government to take the necessary steps to attempt to alleviate the position.

Now a great reaction has set in, and we hear from all quarters reports of private individuals digging up small lawns, schoolboys breaking up school quadrangles and playing grounds, even of clergymen who are endeavouring to raise vegetable crops in churchyards; while golf greens, cricket fields, tennis courts, &c., are being broken up by the spade. Surely much of this is misdirected energy, enthusiasm run riot; and what would be far better than the destruction of small beauty spots and recreative spaces would be for a combined and organised effort on the part of the nation to get the full value of food products from the real waste spaces of the country.

A well-known contemporary of THE GARDEN a short while since gave the figures for land under Wheat in the country as 2,000,000 acres, while the waste land was stated to be 17,000,000 acres, and one can scarcely conceive what a vast amount of foodstuffs could be produced from those waste acres, especially if proper methods were employed to that end. One also marvels why the people of Great Britain should permit such a large amount of waste ground to exist, a state of affairs which renders necessary the large imports of vegetables and corn that have been the case for a number of decades. During the past sixty years the area of Wheat lands alone has fallen from 4,500,000 acres to 2,000,000 acres, and this state of affairs with an ever-increasing population. Consequently our food imports have correspondingly increased enormously. Vital as the matter of increased home food production is at the present time, the essential fact of this also being necessary during the "piping times of peace" must never be lost sight of again.

CONVERTING ROUGH PASTURE INTO FOOD BEARING LAND AT ALDENHAM PARK.

Potatoes will probably be planted, as these are undoubtedly the most valuable crop to put freshly broken ground under, and besides their value as a crop, they so greatly help in breaking up and cleansing the ground. Potatoes should never be crowded. One of the principal contributory causes of failure with this crop on farms and market gardens, where large tracts of Potato grounds are found—as, in fact, in nearly all gardens, large and small—is overcrowding, and sickly haulm and plants and diseased tubers are far more frequently found where lack of proper space is seen between sets and rows than on grounds where wide planting is practised. This system of wide planting does not mean waste of ground, for where the rows are set 3 feet 6 inches to 4 feet apart the intervening space can be utilised for growing crops of the Brassica family.

Here at Aldenham particular care is taken in crop rotation, intensive culture and the proper preparation of the ground. It is useless to imagine that good results can be obtained by merely scratching the surface of the earth. One of the first essentials towards success in vegetable culture is draining and deep tillage, and it is far better to have one acre of well broken up ground than three times that area only scratched over. It is an accepted fact that the deeper the trenching the better the results, and in our established kitchen gardens here we trench 3 feet 6 inches to 4 feet deep.

Another point of great importance is the preparation of the ground after it is dug up—that is, what fertilisers to use, &c.; and for the novice I would urge that immediate guidance should be obtained in the direction of lectures, leaflets, &c., by the local authorities administering the new regulations as to allotment grounds, and by the local horticultural societies, where such exist.

THE ALLOTMENT WEEK BY WEEK

By CECIL BARTLETT.

As most of the holdings are furnished through the local authorities, the allotments are usually set out by their surveyors' staffs, but allotment societies and other private associations are responsible for the initial work. It will generally be found most expeditious to enlist the services of someone accustomed to measuring and parcelling land, for unless, as very rarely happens, the land is square or rectangular, many unforeseen difficulties are soon met.

The proper method—and the right way is always the easiest in the long run—is to work from a scale plan, using as large a scale as possible, and after setting out as many plots as required, they may easily be transferred from the plan to the ground. As many "frontages" as possible should be given, for everyone likes to get on his plot as easily as possible, but it is not advisable to set out the plots less than 12 feet wide; 15 feet will generally be found better, and it is also a convenient measurement for the novice to work from, although 16½ feet is the standard rod length. But the exact width must always be governed by the available depth as well as the general shape of the ground, and in order to equally divide the whole, the plots often have to be of different dimensions.

Although many a man accustomed to manual labour will keep a 20-rod allotment in good condition, raising profitable crops from it, yet as a general rule 10 rods will be found quite as much as the average man can find time to cultivate. But it is not necessary to set out the plots exactly this size, nor is it always possible or desirable.

The longest side of the ground should be taken as a base line, and the plots set out at right angles. In many instances around London no provision for paths has been made, and although this is an economy of ground, yet it will be found exceedingly inconvenient in the future. To reach the further end of his plot the worker will have to walk over his crops; and it has been suggested to me that the unprincipled will make use of their neighbours' plots, with results which may be imagined. Wherever the room can be afforded, a central cart track, 7 feet wide with a "turn" at the far end, on large allotments will be a great convenience for drawing manure. The paths may be as narrow as 18 inches, and where space is valuable one path could serve every two plots.

Preparing the Ground.—If it has been treated well in the past, those holders whose allotments are on arable land are fortunate, for their digging is plain work; but while grassland requires more laborious preparation, it is often the best in the end. Dealing with the latter, it simplifies matters if, when the herbage is long and at all coarse, the field is cut over before the plots are pegged out If this has not been done, the holder will save time and backache if he cuts the grass with a scythe or a hook before beginning any digging. The cut grass, if made into a heap at the far end of the plot and turned occasionally, will make a useful dressing, or, if preferred, it can be laid under the top spit as digging proceeds.

There are two ways of dealing with grassland—the farmer's way and the gardener's way. Followers of the first dig the ground about 9 inches deep and throw it up roughly. A fortnight or three weeks later the dug ground is forked over, the grass and weeds collected and burnt. When dealing with land infested with such strong perennial weeds as Docks, Nettles and Buttercups this method has much to recommend it, provided the ground is afterwards properly treated. But too often the worker rests content with this scanty preparation. The true gardener's plan is to thoroughly bastard-trench his plot at the onset. In bastard-trenching, all the top soil, 2 feet wide and 1 foot deep, is taken from one end of the plot and wheeled to the finishing point for use at the last. The soil in the trench thus made is then dug with a fork another full spit deep, leaving it in its original position. (A spit, it may be remarked, is the old name for a spade, so that a spit deep means the depth of a spade's blade.) Then the worker digs a second 2 feet wide strip, turning the soil over into the trench already made. No. 2 trench is next broken up to be filled with the soil from a third strip, the process being continued until the end of the plot is reached, when the last trench is filled with the soil wheeled from the first trench made. By this method the soil is treated as though it were in two layers, each a foot deep, and these are turned over in their respective positions. It is rarely advisable to place the original lower layer on the top at the commencement, but after a few years bastard-trenching this may often be done, because during that time it has become improved by the decayed roots of the vegetables and any manure which has been laid between the two layers of soil.

Only in favoured circumstances will the allotment holder be able to obtain farmyard or even stable manure at this juncture, but as most allotments have been "down to grass" for a considerable time past, the lack of organic manure need cause no misgivings. Such land is much of the nature of "virgin soil," and if of average quality may be relied upon to give good returns for the labour expended, without the aid of manure now. But, at the risk of repetition, I would insist on the absolute necessity of thorough soil preparation, and that the digging be done as early as possible so that Nature may have time to exert her beneficial influence on the soil, which in all probability has not "seen daylight" for many years. It may reasonably be assumed that no sane authority would set aside waterlogged land for allotment purposes, and the dampness of any land which "lies a bit wet" during the winter months will be remedied by bastard-trenching.

Alarmists have drawn dreadful pictures of the havoc which allotment holders may anticipate from the ravages of wireworm and other soil pests. While there are lands badly infested, these, fortunately, are not nearly so general as many would have one believe. However, I hope next week to suggest ways and means of combating these denizens of the underworld.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Renovating Orchard Trees.—Young trees that have been neglected by allowing the grass to grow close up to the stems immediately after planting should be assisted. The trees cannot flourish in that manner, no matter how well they were planted. Clear off the grass 3 feet from the stem, lightly fork over the surface, and work in a liberal quantity of half-decayed manure, finishing off with a light mulching of manure.

Stake all Newly Planted Trees securely. Too often this detail is neglected or imperfectly done, so much so that the trees are swayed about by wind, their roots loosened in the soil, and, what is more, the bark is bruised on the stem, which causes injury to the tree. Place a firm stake in the ground 4 inches from the stem, and around the tree stem wrap a wisp of straw, making it secure with a Hazel withe or galvanised wire; then secure this to the stake in such a manner that, no matter how the tree sways, the bark does not come in contact with the stake. Mr. Beckett has invented an excellent tree clip, made of waterproof listing, which is easily affixed, durable and efficient.

Vegetables Under Glass.

Carrots.—Sow seed of Shorthorn varieties in light sandy soil in a frame, over a mild hotbed of leaves and manure, for the early supplies. At the same time thinly sow Wood's Frame or French Breakfast Radishes in the same frame. In this way a double crop is secured, as the Radishes may be obtained before they interfere with the Carrots.

Vegetable Marrows.—Sow seeds of Table Dainty or Tender and True in pots for an early supply in a cool house or in frames in May. Grow the plants sturdily, shifting them on into larger pots as required, to avoid a check to growth. Finally, they will succeed in the house in 12-inch pots if well fed with liquid manure when the fruit has formed.

Lettuce.—Sow seeds of an early maturing variety, like Golden Ball or Heartwell, in boxes for providing plants for early use in frames or for putting out in the open later to fill up any gaps in the supply.

The Flower Garden.

Ornamental Vines should now be pruned, cutting all side shoots back to within an eye of the main stems. In this way vigorous growth is obtained, and the plants kept within a reasonable space. The foliage, too, develops fully under this mode of treatment, and thus produces a more intense colour.

Climbing Roses.—Complete the pruning of this section without delay, making the remaining shoots secure to the supports to prevent loss of flowering shoots, which are on the move and might be injured later on, no matter how carefully they are handled. Plants well furnished with sucker-like growths from the base should have all of last season's flowering wood cut out to make room for the new growth of the current year. With some there is a tendency to overcrowd the shoots, which results in weakly flower-stems.

Michaelmas Daisies should be replanted every year to obtain the best results. Towards the end of February or early in March is a good time. Where space permits, it is a good plan to grow the plants in a mass, and on the same site when suitable. Deeply dig or trench the soil, adding manure if required. As a rule the clumps of these Asters are too large; they have too many shoots in consequence, and grow and flower weakly. Plants with five stout growths are ample; each then, if properly staked out, has space to develop fully.

Border Chrysanthemums.—The plants of this section which have been wintered in frames or at the foot of a south wall should be pulled in pieces with three growths to each and planted in a frame or in boxes, from which they may be transferred to where they are to flower.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—This is of necessity a busy time in the kitchen garden. Digging which is in arrears must be pushed forward and everything put in readiness for future planting and sowing, although, if the ground is wet and sticky, leave it alone until

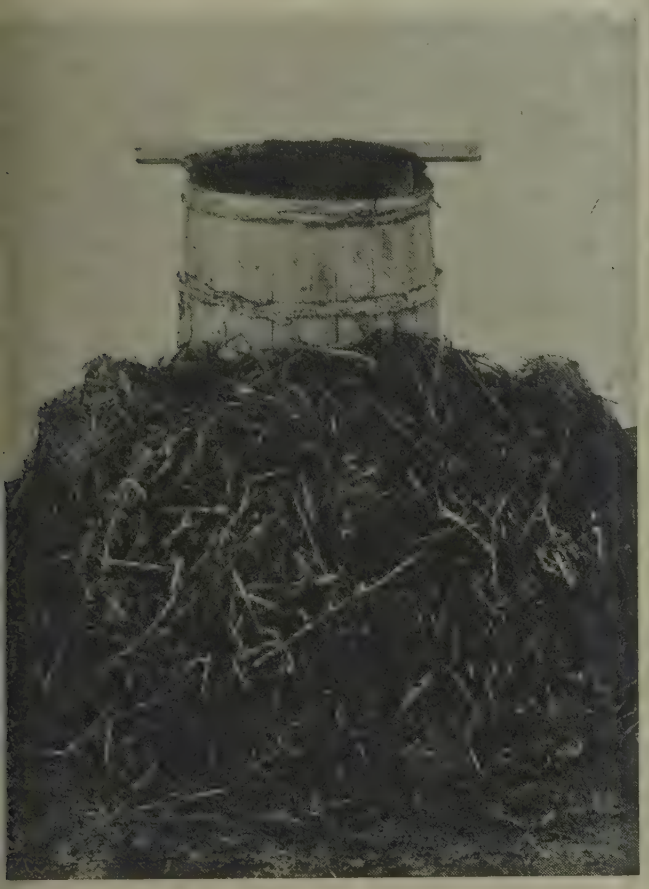


FIG. 1.—FORCING RHUBARB OUTDOORS UNDER AN OLD APPLE BARREL SURROUNDED BY LONG MANURE.

more favourable conditions prevail, as nothing but failures can be looked for if the ground is worked when in a pasty condition. Where Box edgings are in need of replanting or blanks are to be filled up, now is a suitable time to have the work done. It is always advisable to have a few lines of spare Box growing on in the nursery border for this purpose.

Horseradish.—Where this is in demand during the season, it is essential that a portion of the bed be lifted and transplanted annually. Use straight, moderate-sized pieces of roots, from which all side roots should be trimmed off. When the bed is prepared, plant with an ordinary dibber in holes about 9 inches deep.

Seed Potatoes.—The early lot of Potatoes for outdoor planting have now been placed in shallow boxes and stood in an airy loft to sprout, care being taken to keep the shoots as sturdy as possible. Our early varieties consist of May Queen, Midlothian Early and Epicure.

Plants Under Glass.

The Fernery.—Advantage may be taken of stormy weather to have the fernery overhauled and some necessary repotting done. Nephrolepises are particularly requiring attention, and it is wise to increase the stock of this handsome and most accommodating family. Several young plants of Asparagus Sprengeri will be moved into hanging baskets; A. plumosus nanus will be put into larger pots and placed at the back for training up the wall; and young stock will be advanced and any spent subjects discarded.

Fuchsias.—Old plants which have been dried off during the winter should now be taken in hand and, after pruning into shape, be placed in a warm house to break. Quantities of cuttings may then be obtained either for bedding purposes or for growing on for conservatory decoration. Plants raised last year may be potted on for larger specimens. A most useful hanging variety for edging stages is Cloth of Gold, and when grown in hanging baskets it is also very attractive.

Amaryllids.—As these have now shown signs of starting into growth, they should be repotted in a generous mixture of equal parts of fibrous turf, leaf-mould and sand, and placed in a Melon-pit until the flower-spikes shoot up.

Allamanda.—This beautiful flowering stove plant should now be pruned back and repotted, allowing it to occupy a warm corner of the stove so that it may break away strongly.

Gloxinias.—Tubers of these should also be started. Shake away the old material, replant in a moderately fine mixture, and place in a stove or pit until growth commences, when they may be removed to slightly cooler quarters. A packet of seed may also be sown now to provide a batch for autumn flowering.

The Flower Garden.

The Herbaceous Border.—Where replanting is intended, the various plants should be carefully lifted and labelled, afterwards heeling them into temporary quarters until the border is trenched and ready for them. Where the soil is light, replanting in the autumn is advisable; but in gardens where the soil is of a heavy or clayey nature I think spring planting is preferable, as root action takes place more quickly and the crowns of the plants suffer less from the ravages of slugs or excessive damp. It is essential that the ground should be thoroughly trenched, incorporating plenty of well-decayed manure and leaf-mould, while old vegetable matter from the rot pit should be worked under the second spit. See that all surface irregularities are put right and allow the border to slope gently towards the front. Our mode of planting is generally three to five plants in a clump, while one's own good taste should be exercised regarding the blending of colours and the flowering periods of the various plants.

French and Persian Ranunculi.—Beds for these should be completed without delay and the roots planted in drills about 6 inches apart and 2 inches deep. The plants are partial to heavy soil and like an open site. Their richly coloured flowers make a fine display and are very suitable for cutting, especially where flowers have to be despatched by post.

Border Carnations.—In many places it is found necessary to winter these in frames, so that if a favourable opportunity occurs about the end of this month they may be planted out in their flowering quarters, as it is advisable to plant early and give as long a season of growth as possible, the result being that they flower more profusely. Seedlings that were raised during last summer and have been growing in nursery lines may also be transferred to the flower borders.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

FORCING RHUBARB IN THE OPEN

TO follow the earliest supplies under glass and from other quarters, beds outdoors should be utilised to their fullest extent. Beds and borders made up under a wall or a close fence facing south are excellent situations for subsequent supplies, and from such quarters a second crop should be obtained. This is perhaps the simplest way of all of forcing Rhubarb, as splendid crops may be obtained with the minimum of trouble. When Rhubarb is forced in the open, the grower may utilise the services of coverings used for forcing Seakale, such as boxes, barrels of various descriptions—in fact, anything that will cover the roots and that has sufficient head room.

For raising crops of some of the more vigorous and taller-growing Rhubarbs, such as Hobday's Giant, I prefer to use empty Apple barrels. These should have the ends knocked out, and the better end preserved intact for covering purposes. In Fig. 1 an Apple barrel, as used for forcing these taller-growing Rhubarbs outdoors, is shown. Here it will be observed the barrel is placed in position over the Rhubarb root, with the lid slightly tilted to show it is not fixed, and can be adjusted after inspecting the crop. The barrel is partially embedded in warm stable litter, which will encourage the roots to start, and subsequently, if needs be, the whole barrel can be covered with the same littery material. Leaves and stable litter used in conjunction are better, as the heat does not then get too fierce. The coverings should be tested occasionally, so that the latter condition may be avoided.

D. B. C.

FIG. 2.—RHUBARB FORCED ON A SUNNY BORDER UNDER A BARREL.

NURSERY NOTES

MESSRS. WATKINS AND SIMPSON'S NEW PREMISES.

A VERY pleasant surprise awaited us on our recent visit to Messrs. Watkins and Simpson's new and well-appointed premises in Drury Lane, Covent Garden. For a great many years we have had this well-known firm almost as our next door neighbour in Tavistock Street, and our friendly relations are none the less sincere now that the firm, having grown too big for the buildings in Tavistock Street, has erected extensive and, we may say, sumptuous premises in Drury Lane, only a few minutes' walk from the former address, where it has all the additional accommodation required.

We should explain that the site was selected and plans made for this commodious building before the outbreak of war, and in the ordinary course of events the building would have been completed some months earlier than has been the case.

Entering by the Drury Lane frontage, we find ourselves in a spacious and palatial seed shop, which presents a scene of great activity. There is evidently brisk business in vegetable seeds, and a large staff of assistants are kept working at high pressure packeting seeds behind the long series of counters. The opposite side of the seed shop is devoted to flower seeds, and there is accommodation for the very large home and Colonial business. Here we may say that Messrs. Watkins and Simpson are out to capture the German trade. Even before the war this firm was making its presence felt in the Stock and Aster seed trade, and never again shall we send to Erfurt for these or any other seeds. Both of these annuals are largely grown by Messrs. Watkins and Simpson at home and abroad from selected strains, and great pains are taken to ensure the very finest results. Sweet Peas and Antirrhinums are other strong features of the flower seed department, and among the latter are the exquisite varieties Cerise King and Pink Beauty, both of the majus grandiflorum type; and Magpie, Spitfire, Golden Beauty and Captivation, of the nanum grandiflorum section. The last-named variety, which we illustrate, has flowers of a charming rich chamois, shaded pink, quite a unique colour, and is very free flowering. All of these varieties can be obtained from leading retail seedsmen throughout the country.

Passing from the seed shop on the ground floor to the rear of the premises in Arne Street, we arrive at the covered draw-in and despatch floor, where numerous vans and conveyances are taking consignments of seeds to the railways, also to the docks, whence they are shipped to all parts of the world. The trade of this firm, it must be distinctly understood, is purely wholesale, and the firm welcomes a visit from anyone in the trade or those growers who are interested. The first floor is mainly devoted to general, secretarial and private offices, and here we were welcomed by Mr. Alfred Watkins, the governing director, and his able lieutenant, Mr. J. M. Bridgeford, the managing director. Mr. Alfred Watkins, who was formerly with Messrs. Hurst and Son, was the founder of the business in 1876, and at that time Mr. Watkins' own ground of 6½ acres provided the only trial grounds. As evidence of the growth and prosperity of this firm, the trial grounds situated at Feltham and Twickenham now comprise 100 acres, entirely used for the purpose of selection and trials. Thus the stock selecting grounds, which afford a wonderful sight in spring and summer, have grown in extent like the warehouses. We hope to refer to the trial grounds more fully on another occasion.

So far we have only mentioned the ground floor and first floor of these new premises. There is also an enormous basement used as a bulb and general warehouse, and covering the area of the buildings.

The second floor brings us to an immense flower seed warehouse, also the most intricate cleaning machinery, and the Pea picking department, where scores of women are kept busily employed. Above is the third floor seed store; while on the roof we have the very interesting experience of looking over a modern seed-testing house. The open, flat roof, large enough for a tennis court, affords a space of untold value for the purpose of drying seeds.

The whole building, which, by the way, is mainly of steel and cement, with fireproof Teak doors, is beautifully arranged for lighting and general convenience, and fitted with all that is most up-to-date in trade machinery, electric lifts, and shoots from the top of the building to the basement. It is heated by radiators, and the whole place is a model of cleanliness. No pains have been spared to bring this building to the high-water mark of perfection. There is one point we have left till last, although it is of great importance, and that is the comfort and convenience of employés have been studied and provided for in every possible way; and we venture to say that the happy relationship between employers and employés has in some measure been responsible for the remarkable progress and prosperity of this world-renowned and time-honoured firm.

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ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

IMPATIENS GLANDULIFERA (*Anne Amateur*).—You might apply to Messrs. Thompson and Morgan, Ipswich, for this and also for the Milk Thistle (Carduus Marianus), since, though they do not catalogue either in the most recent edition of their catalogue we have at hand, they may know where one or the other is obtainable. So far as the first named is concerned, assuming you are referring to the rose-coloured form, we have a garden or two in mind where it grows and sows itself all too freely each year, and failing your obtaining a supply from the source named, in all probability seeds may be had in the forthcoming autumn. If this is too long to wait, perhaps some reader of THE GARDEN in whose garden the plant is still a weed may be able to send our correspondent a handful of seedlings in spring, and so give her a fresh start with the plant in question.

THE FLOWERING RUSH: BUTOMUS UMBELLATUS (*Guelder*).—This is one of the hardiest and most easily grown of aquatic plants suited to shallow water, the pondside or like places; or, if needs be, it may be grown in tubs, though not with the same chances of success. The plant is perennial, flowering in June and July, and is included in our native flora, being found in ditches, pools and like places. In good condition it attains 4 feet or more high, the growths terminating in an umbel of rose-coloured flowers. Of British aquatic plants it is among the most interesting and beautiful. There should be no difficulty in growing it in any wet place, provided the water is not stagnant, or in places akin to those favoured by it in the wild state. In tubs it should be planted in strong loamy soil. Mr. Amos Perry, Enfield; Messrs. T. S. Ware, Feltham; or any of the hardy plant nurserymen could supply you with plants, which may be dealt with now at any time in open weather.

DIVIDING AND REPLANTING CHRISTMAS ROSES (*Fife*).—We are pleased to receive the tribute of your success with these following early autumn planting and division, inasmuch as there are some who grow them in Scotland who are afraid of moving them at any other time than spring, which for Southern gardens, at least, is wrong and bad. Your dealing with them in August almost coincides with our own experience, which is that late September is the best time of the whole year for the work. It is "best" because at that season the new main or basal roots are then being emitted from the short rhizomatous rootstock of the plant, and it is important that these roots, which under normal conditions descend a considerable depth unbranched, should go down uninjured into the soil. By planting in August, as you have hitherto done, you have anticipated the period of main root production, and upon that fact not a little of your past success hinges. But you need have no misgivings about planting them a month later, say, the end of September or even in October, since this root-producing process is continuous for some weeks. At the same time, the earlier the planting is done the better. We prefer to divide the plants by first shaking away as much soil as possible, or even washing it away, and, laying the plant on its side, insert just below the crown level two hand-forks back to back, pressing them outwards in opposite directions and so wrench the plant asunder. In this way there is practically no loss of root or plant, both of which are inseparable f om the use of a sharp cutting instrument, be it what it may.

FRUIT GARDEN.

PEAR KNIGHT'S MONARCH (*W. E. H.*).—This is one of the richest-flavoured of all Pears, but most difficult from which to get a crop on account of the falling the variety has of dropping its fruit in late summer. It usually carries a good crop to start with until the fruit attains practically its full size, and then dropping begins. One good authority says do not thin the fruit; tantamount to saying the tree will do this for you. Our experience does not support this theory. On the contrary, we think non-thinning is sometimes responsible for the dropping. The best method of treating this variety we have found is to have the tree well mulched with decayed manure during the summer and well watered in dry weather, thinning the smallest of the fruits in good time. A west aspect suits it well. The variety is said to succeed better as a standard, but the fruits will be smaller and not so rich.

MISCELLANEOUS.

NAME OF PLANT.—*J. H. C.*.—The leaves sent are not those of an Orchid, but of Philodendron cannifolium (Canna-leaved). It is a native of Brazil, for which stove treatment is necessary. It produces small greenish, Arum-like flower-spathes.

SOCIETIES

LECTURE ON VEGETABLE GROWING.

THE first of a series of lectures on vegetable cultivation, to be held at fortnightly intervals, was given by Mr. E. R. Janes at University College, Reading. The lecturer dealt with many objections which were likely to be made as reasons for not cultivating vegetables. He stated that lack of knowledge was not an insuperable barrier, as it was comparatively easy to learn enough elementary horticulture to enable persons to grow the more common vegetables of food value, and he instanced how on vacant sites in Westminster unskilled persons had learnt how to cultivate vegetables under appallingly bad conditions. He showed how persons with limited time could, by systematically spending regular short periods in their gardens, do much to increase the national food supply. Even if individual efforts appeared small, yet the collective efforts of thousands of persons would be a considerable asset to the country. Many persons objected that their soil was too poor, but it was pointed out that much of the soil under cultivation in Germany and France would be condemned as unsuitable in this country. Instances were also given of cases where apparently unsuitable waste land had yielded heavy crops of Potatoes. The objection that many heavy clay soils were unworkable was stated to be difficult, but not insurmountable. It could be met by temporarily abandoning other operations in order to work heavy land on favourable occasions when a good tilth was obtainable. It was pointed out that few persons were physically incapable of performing at least some form of vegetable culture, as many horticultural operations, especially digging and trenching, were excellent aids to physical culture. The best methods of cleaning and digging semi-waste gardens were next dealt with, special importance being placed on the necessity for the thorough removal of perennial weeds, such as Couch and Bindweed. Reference was made to the necessity for collecting and burning garden prunings and rubbish to supply potash, which was almost unobtainable in other forms. Many left the building resolving that they would immediately commence cultivating vegetables in their gardens.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

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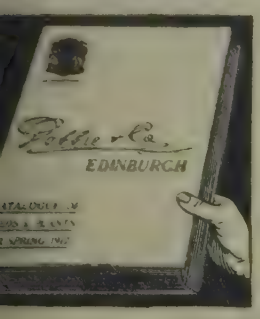

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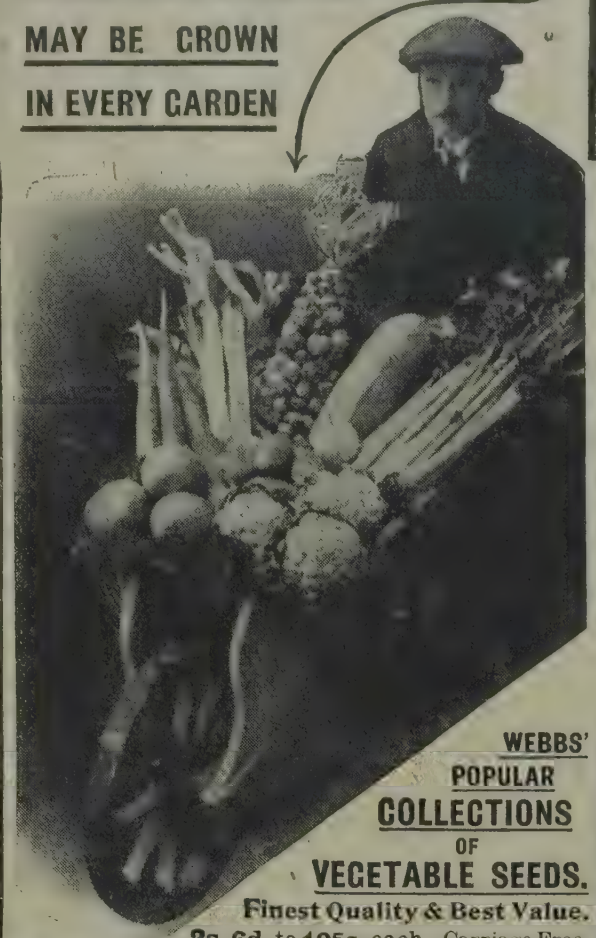

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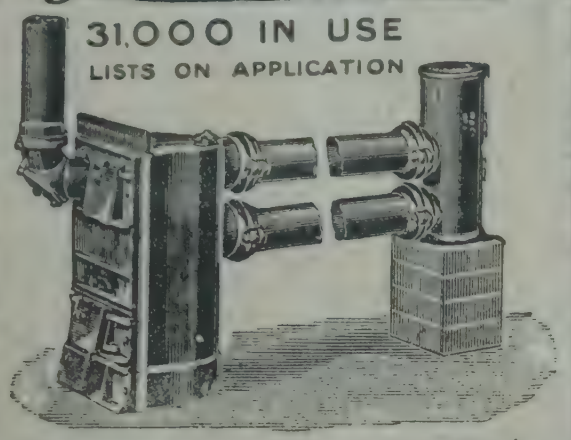

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A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
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VOL. LXXXI.—No. 2361. SATURDAY, FEBRUARY 17, 1917.

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Edu Meyer, red and yellow - 8d.
Geni. McArthur,bright scar. 8d.
Gruss an Teplitz, crimson - 6d.
HarryKirk,deep sulphur yel. 9d.
Killarney, pink - - - 8d.
Mme. Abel Chatenay,sal.pk. 6d.
Mme.JulesGrolez,bright rose 6d.
Mme. Ravary, pale orange - 6d.
Rayon d'Or.deep orange cad. 9d.
Richmond, pure red scarlet 8d.

Sweet Briars

SELECTION "R."

6 choice and fragrant sorts, suitable for hedges, &c.

Colours exquisite. **3/9** Carriage paid.

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Edith Bellenden, rose pink 8d.
Lucy Bertram, rich crimson 8d.
Lady Penzance, soft copper 8d.
Meg Merriles, bright crim. 8d.
Rose Bradwardine,clear rose 8d.

Exhibition Roses

SELECTION "B."

24 specially-selected varieties, superb form, grand colour.

Assured prize winners. **12/6** Carriage paid.

Avoca (ht), crimson scarlet 8d.
Bessie Brown (ht),creamyw. 8d.
British Queen (ht), white - 9d.
Chas. Lefebvre (hp),crimson 6d.
Coronation (hp), flesh pink 1/-
Dean Hole (ht), silvery rose 8d.
Earl of Gosford(ht),dk.crim. 8d.
Ethel Malcolm (ht),ivory w. 8d.
Gl.de C.Guinoisseau(hp),ver. 6d.
GeorgeDickson(ht),vel.crim. 8d.
Hugh Dickson (hp), crimson 6d.
J. B. Clarke (ht), crimson - 8d.
Jonkheer J.L. Mock(ht),car. 8d.
Leslie Holland(ht),scar.crim 8d.
Mabel Drew (ht),canary yel. 8d.
LyonsRose(ht),shrimp pink 8d.
Mrs. C. West (ht), shell pink 8d.
Mildred Grant(ht),tinted w. 8d.
Mrs.AmyHammond(ht),ap. 8d.
Mrs.AndrewCarnegie(ht),w. 1/-
Mrs.JohnLaing(hp),rosy pk. 6d.
Mrs. J. H. Welch (ht), pink 8d.
Mrs. Roosevelt(ht),pale flesh 8d.
UlrichBrunner(hp),cher.red 6d.

Town Roses

SELECTION "E."

12 sorts proved suitable for growing in smoke.

Immensely successful. **6/6** Carriage paid.

CarolineTestout(ht),sal.pink 6d.
Dr.O'Donel Browne(ht),car. 8d.
F. K. Druschki (hp), white 8d.
George Dickson(ht),crimson 8d.
GustaveGrunerwald(ht),car. 8d.
J. B. Clark (ht), deep scarlet 8d.
La Tosca (ht), silvery pink 8d.
Mme. Ed. Herriot (per), red 9d.
Mme.Ravary(ht),orange yel. 6d.
Mrs.JohnLaing(hp),rose pk. 6d.
Mme. Isaac Pereire (b), car. 6d.
Ulrich Brunner(hp),cher.red 6d.

Tall Bedding Roses

SELECTION "J."

12 vigorous sorts, may be pegged down or grown natural.

Charming colouring. **6/6** Carriage paid.

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Gruss anTeplitz(ht),crimson 6d.
Gus. Grunerwald (ht),carm. 8d.
Hugh Dickson (hp),crimson 6d.
Lady Hillingdon(t),apri-yel. 9d.
La Tosca (ht), silvery pink 8d.
Mme.A.Chatenay,salm.pink 6d.
Mme. M. Soupert(ht),yellow 8d.
Mrs. R. G. S.Crawford, pink 6d.
Pharisaer (ht), rosy white - 8d.
Pce. C.de Rohan,dark crims. 6d.
Souv. de M. Zayas (ht), car. 6d.

Baby Ramblers

SELECTION "O."

12 roses of bushy habit, recommended for beds.

About 1ft. in height. **6/6** Carriage paid.

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Canarienvogel, yel. & orange 9d.
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Erna Teschendorf, crimson 8d.
E. Lamesch, orange pink - 8d.
Jessie, rose crimson - - 6d.
Katherine Zeimet, pure wh. 8d.
King Edward VII., rosy car. 8d.
Leonie Lamesch,coppery red 8d.
Mrs. Taft, brilliant crimson 8d.
Mrs.W. H. Cutbush,cher.pk. 6d.
Orleans, geranium red - - 6d.

Climbers, Ramblers

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6 roses suitable for trellis, pillars, arches, pergolas, &c.

All very vigorous. **4/-** Carriage paid.

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American Pillar(cl., P.),pink 9d.
Blush Rambler (cl.,P.),blush 9d.
Dorothy Perkins (W.), pink 9d.
Excelsa (W.), bril. scarlet 9d.
Hiawatha (cl.,P.), crim.wh. 9d.

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Hardy Auriculas, mixed 3/- doz.
Sweet Williams, mixed 1/- ,,
Canterbury Bells, mixed 1/6 ,,
,, ,, 3 colours 1/6 ,,
Wallflowers, blood red, yellow, 4/6 100, 9d. doz.

Strong bushy plants, for immediate planting and display.

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"OPAL" SELECTION.

Every one first class. **4/-** Carriage paid.

Mesa Starwort, rich deep blue.
Peach-l'd Bellflower, sky blue.
Mussin's Catmint, soft lavender
Bradshaw's Avena, scarlet.
Dwarf Golden Sneezewort.
Opal Alkanet, sky blue.
Oliver's Sea Holly, steely blue.
Riverton Sneezewort, crimson.
Pearl Achillea, pure white.
Beautiful Stonecrop, rosy pur.
Cambridge Scarlet Bergamot.
Tuck's Red Hot Poker, scarlet, yellow.

Michaelmas Daisies

"LLOYD GEORGE" SELECTION.

Every one a beauty. **3/6** Carriage paid.

Saturn, rich violet.
Peggy Ballard, rosy lavender.
Delight, pure white.
Hilda Morris, pale lavender.
Glory of Colwall, double lav.
Lady Lloyd, rose pink.
St. Egwin, rosy red.
Moonlight, ageratum blue.
G. M. Lewis, deep blue.
Acris, lavender blue.
Heather Bells, white heather.
Novelty, cloudy lavender.

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18 strong plants. **4/-** Carriage paid.

Instead of bedding out with Geraniums, &c., which have to be renewed every season, try these which last for years.

All 3/- per doz. (of one kind).
3 of each, 18 plants, 4/- car. paid.
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Opal Alkanet, milky blue.
Dropmore Alkanet, gentian bl.
Tree Lupins, mixed hybrids.
Border Lupins, mixed hybrids.

Rockery Plants

"SUNSET" SELECTION.

25 extra st. plants. **6/6** Carriage paid.

Alpine Erinos, rosy purple.
Yellow Stonecrop, golden.
Wilson's Bellflower, blue.
Basil Soapwort, red.
Sunset Rock-rose, yellow.
Bulgarian Rockfoil, white.
Californian Stonecrop, crim. yel.
Woolly Thyme, lavender.
Pulla Bellflower, deep violet.
Silvery Aubrietia, lilac.
Alpine Cotoneaster, evergreen.
Dub. Evening Primrose, yellow.
Pott's Stonecrop, pink.
Norbonne Flax, blue.
Upright Thyme, lilac.
Californian Rockfoil, white.
Isabel's Bellflower, blue.
Potter's Aubrietia, violet.
Ewer's Stonecrop, yellow.
Rock Cotoneaster, evergreen.
Tom Thumb Spiraea, red.
Haag's Rockfoil, golden.
Basin Bellflower, pale blue.
Lydian Stonecrop, pink.
Stabian Rockfoil, white.

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Queen Mary, splendid kidney	4/0	7/9	15/3
SECOND EARLY			
British Queen, white oval	4/0	7/9	15/3
Epicure (Sutton's), early white	3/8	7/3	14/3
Great Scott, immune black spot	4/11	9/9	19/0
Lancashire Lass, white kidney	4/0	7/9	15/3
Royal Kidney, heavy cropper	4/-	7/9	15/3
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Arran Chief, tip-top every way	4/7	9/0	17/9
Champion, fine white oval	3/8	7/3	14/3
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Cabbage Lettuce, 1,500.
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Long Wh. Marrow, 12.
Ailsa Craig Onions, 300.
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Crln. Globe Beet, 200.
Lyon Leek, 400.

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Cos. Lettuce, 1,000 s.
White Celery, 2,500 s.
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Champion Onion, 300 s
Radish, 1,000 s.
French Bean, 100 s.
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Savoy, 500 s.
Cauliflower, 300 s.
Carrot, 750 s.
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Parsley, 1,000 s.
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Cress, ½oz.
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Queen of Norway, mve.
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Hercules, pink.
Barbara, salmon.
R. F. Felton, lav.
America Spencer.
King Manoel, maroon.

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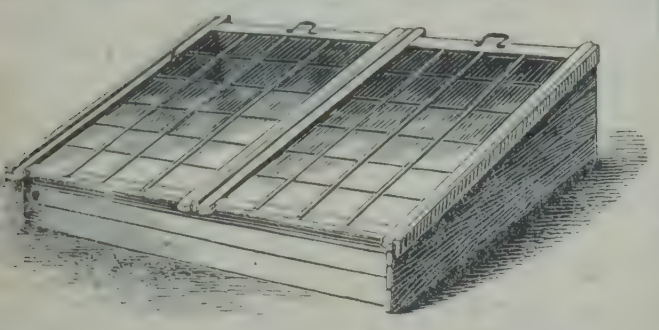

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(Exhibitor's) of Giant Sweet Peas. 30 exquisite Waved Varieties, 20 seeds of each, separate and named. A splendid range of colour, and will provide an enormous quantity of cutting. **10/-** Post Free for Cash.

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Twelve splendid waved varieties. Each packet contains 25 Seeds. If purchased separately, **2d.** per packet.

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Doris Usher, cream, suffused pink
Dorothy, pale mauve and lilac
Flora Norton Spencer, ageratum blue
Helen Grosvenor, orange, salmon-rose wings
Lord Nelson Spencer, intense navy blue
Loyalty, white, flaked blue
Marchioness of Tweeddale, white, edged rosy-pink
Maud Holmes, the best crimson waved variety
Mrs. C. W. Breadmore, cream, edged crushed strawberry
Nora Unwin, white, very fine
Prince George, lilac-rose, wings violet

Collection L. Price 2/3

Twelve very fine waved varieties. Each packet contans 25 Seeds. **3d.** per packet if purchased separately.

Dobbie's Cream, the richest cream extant
Duplex Spencer, deep cream-pink
Edna May Improved, pure white, well frilled
Edrom Beauty, bright orange–salmon
Elsie Herbert, white, suffused rosy-pink
Illuminator, intense cerise-pink
Ivanhoe, heliotrope, suffused rose
Lady Evelyn Eyre, pink, flushed salmon
Lavender Geo. Herbert, bluish lavender
Mrs. Cuthbertson rose-pink, wings paler
Scarlet Emperor, brilliant scarlet, sunproof
Thomas Stevenson, orange-scarlet
Collections K and L together for **3/–**, with one packet of Blue Picotee, white, tinted blue and edged violet (25), **3d.**, gratis.

Collection M. Price 2/9

Twelve extra fine varieties.

Agricola, blush, suffused rosy lilac (30)	4
Barbara, deep shrimp-pink (20)	4
Cheerful, apricot and mauve on cream (15)	4
Elfrida Pearson, pink, suffused salmon (30)	3
King Mauve, mauve, a giant flower (30)...	4
King White, pure white, beautifully frilled (20)... ...	3
Marks Tey, rosy mauve, wings blush (25)	3
Mrs. J. Balmer, cream, suffused scarlet (15)	3
R. F. Felton, very fine lavender (25)	3
Robert Sydenham, bright orange-scarlet (20)	3
Sincerity, pure cerise, extra (20)	4
Wedgewood, rich silvery blue (30)...	3

Collections L and M together for **4/3,** with one packet of Mar Campbell, cream, veined carmine (25), **3d.,** Senator Spencer white, striped purple brown (25), **3d.,** gratis.

Collection N. Price 3/3

Twelve newer varieties.

Alfred Watkins, clear lavender, waved (25)	4
Constance Hinton, pure white, large (20)	4
Fiery Cross, brilliant scarlet self (10)	6
Hercules, a huge Countess Spencer (30)	3
King Manoel, deep crimson-maroon (25)	3
Margaret Atlee, cream, suffused pink (30)	3
Jean Ireland, buff, shaded carmine (15)...	6
Princess Mary, deep sky-blue, tinted pink (25) ...	3
Rosabelle, deep rose, extra large (30)	3
Royal Purple, a lovely shade of purple (25)	4
Austin Frederick, deep lavender (25)	6
The President, rich orange-scarlet (10)	6

Collections M and N for **5/6,** with one packet of Edith Taylo (25), **3d.,** rosy cerise, and Constance Acomb (20), **4d.,** crean and mauve.

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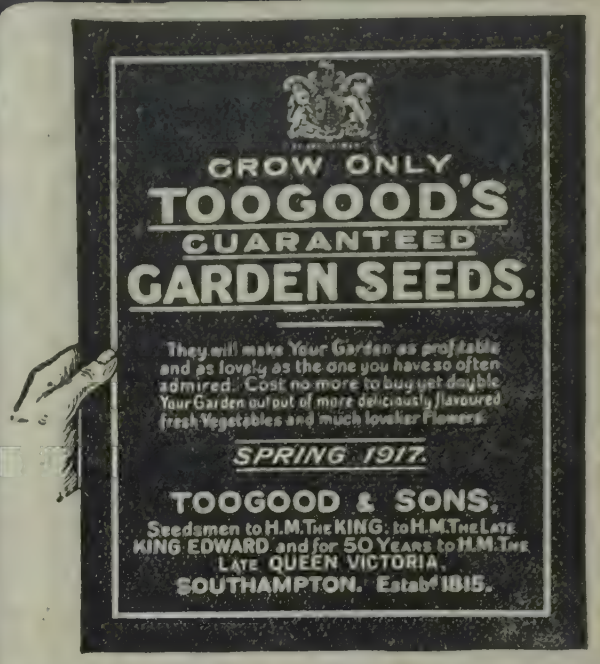
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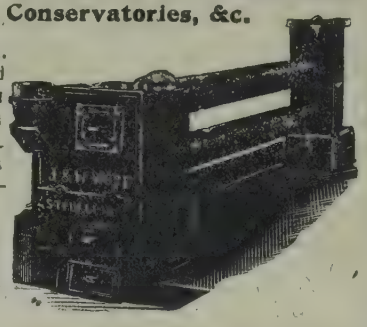

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THE GARDEN.

No. 2361.—Vol. LXXXI. February 17, 1917.

NOTES OF THE WEEK

THE many applications we have received from our readers for reliable information on poultry matters, coupled with our wish to do all that is possible to increase the food supply of the country, have induced us to make a new departure in the pages of THE GARDEN. With this number, therefore, we commence a weekly series of poultry articles. Most of our readers are already poultry-keepers, while a great many are taking up this work for the first time in response to the national call for the rearing of poultry and the production of eggs. In order that we may assist readers to make poultry-keeping a profitable as well as a patriotic undertaking, we have secured the services of Mr. W. Powell-Owen, the author of many books on poultry matters, who has, perhaps, a larger following of the poultry-reading public than any other authority. Mr. Powell-Owen was for many years Editor of *The Poultry World* and late Assistant-Editor of *Poultry*. He is the author of "Poultry-Keeping on Money-Making Lines," published by Messrs. George Newnes, Limited. "Eggs All the Year Round," "An Income from Fowls," "The Intensive System of Poultry-Keeping," "The A B C of Breeding Poultry," "Ducks and Geese for Profit," "How to Feed Hens for Egg-Production," and "How to Make Money from Poultry." The last-mentioned book, it is interesting to note, has been published in Braille, and is being used as a text-book by our blind soldiers. Mr. Powell-Owen is a clear and able writer on the subject, in which he has had exceptional experience. We feel sure that readers will be glad to take full advantage of his services, which are entirely at their disposal.

"Chingkerichees" from Cape Town.—Milk white flowers of Ornithogalum lacteum from Cape Town, where they are known as Chingkerichees and Pigeon's Milk, are shown in the accompanying illustration. These flowers, with many others, were picked about November 26 last and sent by hand under the care of the stewardess on board the *Dunogan*. They arrived in England about the New Year, and are still (February 12) as fresh as though they had just opened. Flowers of this well-known plant are frequently sent for name under similar conditions.

FLOWERS OF ORNITHOGALUM LACTEUM FROM CAPE TOWN.

The Royal Horticultural Society and the War Loan.—The annual general meeting of the Royal Horticultural Society was held on February 13, just as we were going to press. In the absence, through illness, of the president, Field-Marshal Lord Grenfell, the chair was taken by Sir Harry J. Veitch, the meeting was well attended. A most important point was raised by Mr. R. Wallace of Colchester, who urged the Council to increase the amount invested in the War Loan from £10,000 to £20,000. Apparently the finances of the society, as shown in the balance sheet, fully justify the increase, and a strong recommendation was put forward by the annual general meeting that the increase should be made.

Theophrastus.—We are glad to note that Sir Arthur Hort, who is a very keen gardener, has translated this ancient Lesbian's "Enquiry into Plants" into English prose. The baronet, in his introductory remarks, tells us how he was induced to undertake the work by the late Canon Ellacombe, and how, among other friends, he has been fortunate in securing the help of Sir William Thiselton-Dyer and Mr. E. A. Bowles. Theophrastus, the pupil of Plato, the pupil and friend of Aristotle, had a large garden in Athens about three hundred years before the Birth of Christ. A garden is, in truth, a many-sided thing, and it has a wonderful power of retaining the affections of its lovers. The life and work of this great man bear this out. Possibly a hundred years old and still keen! The translation is published in the Loeb Classical Library series and is in two volumes.

New Victoria Medallists of Honour in Horticulture.—To fill the vacancies caused by the death of five holders of this honour, the Council of the Royal Horticultural Society have appointed the following gentlemen to the honour of V.M.H.: Mr. E. A. Bowles, M.A., F.L.S., the Hon. Vicary Gibbs, and Messrs. W. Slocock, Peter C. M. Veitch and William Watson, A.L.S.

*** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Flowers for Bees.—"Anne Amateur" should include in her list (page 48) the sweet-scented Californian annual Limnanthes Douglasii. For flowering in early spring it should be sown on a sheltered bank in September, as it will stand an ordinary winter. But if "Anne Amateur" sows a bed of this in March, her bees will not wander far in summer, but will be "flying solicitous from flower to flower" until the last of its bright yellow blossoms has gone to seed.—A. R. GOODWIN, *Kidderminster.*

—— "Anne Amateur" might well include the following in her list of annuals suitable for bees: Alyssum compactum Little Gem and A. procumbens, Bartonia aurea, Lupines, Limnanthes Douglasii (one of the very best), Nasturtiums, Nemesias, Nemophila insignis, Salvia Blue Beard and others Silene Armeria, Sunflowers and Viscarias. Nearly all the Œnotheras are good pollen bearers, but probably not equal to Mignonette and Shirley Poppies; and this pollen, be it remembered, is of even greater importance to the well-being of the hive than honey, since it is upon it that the successional "drafts" of worker bees are reared.—A. T. J.

Abnormal Weather in Cornwall.—It may interest you to know what abnormally severe weather has been experienced lately in the neighbourhood of Penzance. Our gardens at Rosemorran lie just above the town, and our gardener writes that there will be no Daffodil blooms open for another six weeks or more. Only a few are just peeping above the ground. He also states that the ground is frozen to a depth of 2 inches to 3 inches, and that even indoors water freezes. In normal seasons we have seedling Daffodils commencing to flower from the end of January, and a year or two ago we even had a few blooms at Christmas.—BARR AND SONS.

Border or Perpetual Carnations in the Open. As I am interested in the Carnation, I should like to know which you consider the best to plant outside—the Border or Perpetual Carnation. In the catalogues of Carnation specialists and in reading books one is given the impression that the Perpetual is better than the majority of Borders. In one catalogue it states: "Nothing can take the place of the hardy Border Carnations"; and in another, speaking of the Perpetuals: "Their advantage for this purpose (outside planting) over the Border varieties is that they can be planted at all seasons." It would be of interest to hear the opinions of a few who have treated the Perpetual as a Border Carnation. I think it would be the means of a few taking more interest in the Perpetual Carnation as an outdoor plant.—CARNATION.

A Record of Carnation Blooms.—I was much interested last year in Mr. Hudson's record of Carnation blooms, and I decided to keep a record of blooms cut from a house 16 feet by 11 feet 6 inches, commencing with my January-struck plants when they began flowering last autumn. Unfortunately, I was unable to keep any record for October and November, so had to commence with December. On reading Mr. Hudson's record in your issue for January 20, I was struck by the low numbers cut for December and January each year. In December, 1916, I cut 118 blooms, and for January, 1917, up to the 19th I had cut exactly 100. I have to confess that the record since the last few weeks' continuous frost is a miserable reading, as the numbers have fallen with a tremendous bump, reaching only 138 for January. This month, up to the 10th, I have only cut 32. The numbers have fallen off since the last week in January. Everything, however, is promising for a more plentiful supply with the return of more genial weather. This house is about two-thirds the size of Mr. Hudson's, and yet his record for December, 1916, is 46. Nevertheless, the Perpetual-flowering Carnation is a flower well worth growing, even if the record was below that number.—A. ELCOCK.

The Parsnip as a Source of Sugar Production.—At this time, when one hears so much of the scarcity of sugar, would it not be as well to turn our attention to the cultivation of such plants as contain sugar or sugar substitute? We have heard much of the sugar properties of Beet; but what about the Parsnip? which, judging from its flavour when properly cooked, would seem to be even richer than the Beet in this respect. I recently experimented with Parsnips, boiling them for a long time in just as much water as would boil them and no more. When drained off the liquor was pale amber in colour and tasted very sweet. I found that a gill of this was sufficient to sweeten a cup of cocoa. It seems a pity, when economy is being so much urged on all sides, particularly in sugar, that such a valuable sugar-producing plant should be overlooked. — M. MOFFAT, *Shatwick, Somerset.*

Lycoris aurea.—Thanks to a friend in Sydney I saw "in the flesh" for the first time last autumn what hitherto I had only known "on paper." I refer to Lycoris aurea. It was a very pleasant surprise when it opened its rich saffron flowers, for in none of its pictures that I have come across has full justice been done either to its glorious colour or to the stately setting of the narrow, curled, strap-shaped petals of its individual flowers. They are like those Prince of Wales' Feather arrangements on long standards which are sometimes portrayed as appurtenances of dusky monarchy, and of a hue so rich-looking and fascinating that a king might be pardoned should he enviously wish it were his own royal colour. A more prosaic description might say that the flowers of L. aurea resemble in shape those of a one-sided Nerine, such as N. undulata or N. humilis, but they are much larger and of a deeper and lighter shade of chrome yellow (American Colour Chart, page 3). I cannot find as much as a hint in books about there being any particular difficulty in flowering it in England, and yet knowing friends all say, "Wait and see what will happen next autumn. It is the Sydney sun's work that you have been enjoying." I fear, as such a beauty is so seldom seen in ordinary gardens, that the knowing ones are right. Should these lines meet the eye of Mr. Elwes, or Mr. Worsley, or any other grower of such-like plants, I would ask them to tell us what we must do in order that we may have the greatest chance of seeing flowers every year from our own old bulbs. Is Nerine treatment the best that can be done?—JOSEPH JACOB.

Big-Bud on Black Currants.—While, as a general rule, Mr. George Rowles may be correct in recommending hard pruning as a means of combating the insidious insect, this method is by no means infallible, and no one should lightly consider it to be a simple and easy method of securing immunity. Five years ago I purchased two dozen bushes of Boskoop Giant, a reputedly immune variety, having first grubbed and burnt the old bushes. The new ones, apparently quite free from big-bud, were planted, as far as possible, fully 50 yards from the old quarter, and for two years all was well in my Black Currant world. Then a sprinkling of big-bud appeared, and although all were promptly picked off and burnt, the infestation increased greatly the next year. Knowing that Black Currants often thrive well on light soils when hard pruned, I had no serious anxieties, and adopted that plan. The result is strong, vigorous shoots from the "bottom," just as badly infested with big-bud as the former conventional branches were. Among the bushes of Boskoop Giant purchased were four of a quite distinct variety, which I believe to be French Black, and these have only a negligible quantity of big-bud. In the hope of determining whether French Black is comparatively immune—for complete immunity seems too much to expect—I have now purchased a dozen bushes of guaranteed French Black from a nurseryman whose stock is at present clean, and am experimenting with them. Part are planted with the others, though not near them, and the remainder in heavy soil three miles away, where no other Black Currants have been grown for several years at least. My reason for separating them is that I have the opinion, though am open to correction or conviction, that Black Currants on light soils are more liable to attacks of the mite than those on heavy land. They certainly produce better and heavier crops of fruit on heavy ground.—CECIL BARTLETT.

Vegetables for the Navy.—Most horticulturists, private or professional, have done something to assist the patriotic work of the Vegetable Products Committee in supplying vegetables, fruit, &c., for our gallant sailors who have so efficiently and bravely guarded our shores from invasion. The ramifications of that committee have spread far and wide, and much success has deservedly attended its efforts. May I, however, suggest to readers of THE GARDEN that some system to prevent overlapping of effort is highly desirable? I happen to be in connection with a horticultural society which covers a fairly wide area, and which very early took up the scheme most heartily, issued circulars and made other appeals to owners of gardens, and was the means of contributing large quantities of vegetables, fruits, &c., and also sent considerable sums of money raised by means of sales. The committee of this society was, however, disappointed to find that its area was afterwards being worked by other organisations with less opportunity for dealing with the matter, with the result that its district has been tapped by local committees of various kinds, whose efforts have done little, if anything, to increase the supply; while there has been overlapping of the gravest kind, loss of time and also of money, without any corresponding benefit. If the war is to continue much longer and the work of the Vegetable Products Committee maintained, it is highly desirable that there should be some collaboration of the various organisations supporting the supply of vegetables, either in a county or district area.—HORTUS.

Greening and Sprouting Potatoes.—Being situated in the wilds, THE GARDEN does not always reach me in good time. I therefore crave pardon for this seemingly delayed note. Respecting the cutting of Potato eyes some weeks prior to planting in order to utilise the major portion of the tubers for cooking, I may say that it is an unsafe policy, unless the small portions can be stored in soil or some other moist medium. During the great

bloom period I was keen on propagating Potatoes as much as possible, and quickly found out that tubers cut many weeks prior to planting and dry stored shrivelled very rapidly and lost their vitality. By storing the eyes, which, of course, must have a portion of the tuber attached, in boxes of soil the eyes are enabled to sprout, and even when kept cool will emit roots more or less before planting-time. Single eyes should not in any case be planted straight into the ground, and particularly does this apply to the eyes from the basal end, which are usually slow to start. Touching upon Mr. Garner's remarks anent greening, do not be led into thinking that Potatoes selected for seed may be left in the open to green. It is now pretty well known that more Potatoes are blighted through the spores of the disease reaching the tubers than is possible by other ways. As a matter of fact, I do not believe Potatoes are blighted from the interior; that is, not by way of the stems. The spores of the disease reach the tubers by being washed into the soil after they fall from the foliage, and the more soil that is earthed above the crop the less is the attack of the disease. For this particular reason never leave Potatoes on the ground after digging; gather them up as soon as dry, or earlier if the weather is damp, and carry them into the store. The worst example of disease attack I ever had was in a variety I was testing some years ago. The small crop was placed in a box, and by some mischance was left in the garden and forgotten for several days. Not a single tuber escaped, and the entire stock was thus lost.—T. A. W.

A Good All-Round Tomato.—At the present time, when so much stress is laid (and rightly so) on the production of the maximum amount of vegetable foods from our gardens, any indication of what we gardeners have tried and proved to be reliable varieties should be of great value to those less fortunately placed, and such advice should not be reluctantly given, but, on the contrary, freely. For that reason I am tempted to recommend a Tomato that has for the last three seasons proved of superlative merit here. The variety is Princess of Wales, quite suitable for use in large establishments where constant supplies have to be kept up, but simply invaluable to those who have only a limited amount of space at their disposal, such as a small greenhouse, because the plants, though of rather dwarf habit (thus economising space), produce a wonderful crop of well-formed fruits. Sown in heat in February, it will be found to set better and ripen earlier than many other varieties sown at the same time. The fruits, although by no means of abnormal size, are perfectly formed, and the flavour leaves nothing to be desired. It can also be grown quite well outdoors; in fact, we make three sowings of this variety here—the first about the third week in January for inside work, the second about the middle of February for planting on warm walls outside (I find this variety finishes well from an outside planting, and therefore strongly recommend it for this method of culture), the third sowing in September to provide a batch of plants for winter cropping. To sum up, so far as my experience goes, and after trying several varieties alongside it, I consider Princess of Wales the best Tomato for all-round work. It was introduced, I believe, by Messrs. Sutton and Sons, and received an award of merit from the Royal Horticultural Society as far back as 1905.—F. W. MILES, *Ware Park Gardens.*

LEAVING NEWLY PLANTED FRUIT TREES UNPRUNED

BY CLARENCE PONTING.

THE article upon the subject of pruning newly planted fruit trees the first year, by E. Molyneux, in the issue of THE GARDEN for January 27, is one which greatly interested me. The much-debated point as to whether it is beneficial or not to a fruit tree to be pruned the first season after planting is one which can only be determined by actual experience, and even then is greatly influenced according to the time of the year that the tree was planted.

TOMATO PRINCESS OF WALES.

I am quite aware that I am "up against" an authority on gardening by replying to Mr. Molyneux's article, but as I have made several experiments upon this very subject and have carefully noted the effects in pruned and unpruned fruit trees, my observations may be interesting, although at the same time they may not agree with Mr. Molyneux's findings.

Fruit trees are pruned with two objects in view. The first and most important when dealing with young bushes (three years old or so) is the shaping of the tree, and the second, fruitfulness. I am afraid that many amateurs think that pruning is a short cut to fruitfulness; but this is not so, as the first essential to this desirable habit is that the tree must be what is known as "established." Another very common error which many gardeners make is to prune a fruit tree, say, in February and expect that the result of such pruning will be blossoms in May. Pruning, it is true, will in certain cases produce fruit-spurs, but they will not become such until the season after pruning.

It is folly to expect a newly planted tree to produce fruit the season following planting. If planted early, while a few leaves were still on the tree, it is quite possible that a tree might do so; but this would result in a stunted tree, as the energy of the bush would be utilised in producing these fruits at the expense of growth.

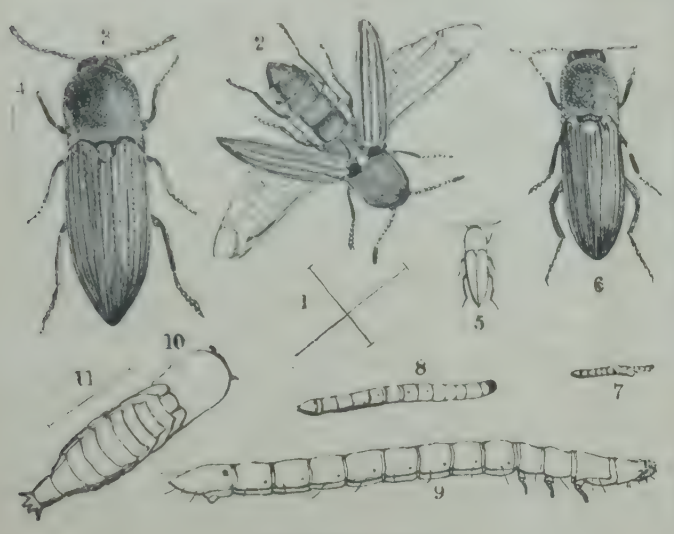
The first essential in newly planted trees of any description is growth, and this can only take place when the root system has been restored.

When a fruit tree is lifted from the nursery, probably three-quarters of its root system is cut away in the process of digging up, so that in the spring the tree starts into growth with only one-fourth of the feeding roots which it had the previous summer. The balance between branches and roots has been upset. The simplest method of restoring this balance appears to be to prune the tree, so that the roots do not have to supply so much sap as would be the case if the tree were left unpruned. Experience proves this to be wrong. In every tree there is a certain amount of sap, which will push out leaves, as, for instance, is proved by taking a pruning in the autumn and placing it in soil. These leaves commence to draw up the sap which they converted into food, but is not used to make growth. It will return and form roots. Growth cannot be made until enough new roots have been formed to restore the balance of the tree. Therefore, from the non-pruner's point of view, the more leaves the tree has to commence with, the sooner will the balance be restored and growth commence. The tree will thus become "established," and will in all probability become well furnished with fruit-spurs, which will bloom the following season and in due course produce a few fruits. Too many fruits should not be allowed the second season, as they are produced at the expense of growth.

I quite agree with Mr. Molyneux that it is most desirable to procure as much growth as possible the first two years, after which summer pruning, followed by autumn pruning, will keep the tree or bush in a fruitful condition.

Naturally, these remarks with regard to pruning are intended to deal with bush fruit, because standards, when young trees, never require to be pruned, except to take out crossing branches or those growing into the centre of the tree.

These remarks apply more particularly to trees planted after November. Those planted in October or early November have a certain quantity of sap in motion so long as any leaves remain upon the boughs. This sap, as soon as the tree is replanted, immediately returns to the roots, which have been damaged, forms a callus and, as the soil is still warm, will push out new roots



WIREWORMS.

1 and 2, Agriotes lineatus. 3 and 4, A. obscurus. 5 and 6, A. Sputator. 7 and 8, Wireworms (natural size). 9, Wireworm (magnified). 10 and 11, Chrysalis.

and so get hold of the ground before winter checks the action of the sap. Such trees might with advantage be pruned the following March, as they are more or less established. The reason why this late pruning is recommended is because the pruner will be able to see which buds are alive and commencing to swell. A tree which has been sent by rail will in all probability have most of the outer buds damaged; or this might happen during the taking up process or during packing. Such damaged buds will not grow good wood. The axiom of pruning when shaping a tree is to prune to an outward bud. This can be easily seen in spring, and the knife used accordingly.

The old axiom that "wood follows the knife" will always prove true except when summer pruning is practised. Then, if this has been done at the correct time, instead of producing wood, the pruned shoot will be converted into a fruit-spur. This, naturally, does not apply to leaders, which as a rule are not summer pruned.

THE ALLOTMENT WEEK BY WEEK

By A. Cecil Bartlett.

As I remarked last week, the possible presence of wireworm and other soil pests must always be considered, although the likelihood of serious and widespread destruction from them need not be anticipated. While digging this plot each worker should look for wireworms, leather-jackets and millepedes. Slugs and snails will probably attack the vegetables later on, but the former are not easy to see except when feeding. Wireworms, it should be stated for the benefit of the beginner, are not worms, but are the larvæ of various beetles, collectively called click-beetles, and received their common name because the variety which is most numerous bears a certain resemblance to a piece of copper wire less than an inch long, and is firm and tough when handled. It has a pair of short legs on each of the first three segments, and by these six legs and a shining body (though not always coppery in colour—some sorts are tarnished) they may be readily identified. During their destructive period wireworms are always found near the roots, on which they feed greedily. After three to five years in the grub state the larva makes a little nest deeper in the soil, and finally changes into a beetle. Leather-jackets are the grubs of the crane-fly, which is known generally as daddy-long-legs. These will not be found so easily as the wireworm, though they are a trifle longer, fatter, and of similar shape. Generally the grub is brownish in colour, and so harmonises with the soil. But, like the wireworm, it is a great pest when present in numbers. Millepedes, or thousand-legs as they are generally called, are more familiar, and are very destructive to root crops.

Good cultivation is the best preventive of all three, and every use of Nature's help with birds should be encouraged. Starlings, rooks and gulls are the most useful birds in this respect. Dressings of lime, particularly of gas-lime, are often recommended for grub-infested land; but lime has no direct influence, though it improves the texture of the soil and helps the cultivator in that way. The best direct method of ridding the soil of these pests is by trapping with pieces of Carrot, Potato or Turnip. The bait should be buried 3 inches or 4 inches deep in the soil, marking the places with a stick, and examined daily, when any larvæ found may be easily destroyed. If, after the crops have commenced to grow, wireworm is suspected—and its presence is usually indicated by yellowish leaves and a general unthrifty appearance of the whole plant—a few plants should be dug up and the roots and soil examined. If the pests are at work, it is certainly a case for trapping, and in order to race those not trapped, stimulating manures, such as sulphate of ammonia and superphosphate, should be applied and a free use made of soot, which is also valuable as a dressing. Apply the last named when forking the soil to prepare it for seed-sowing or planting. Foul manure is a fertile source of millepedes, so that it should never be dug into the land until it has been sweetened by frequent turning and, if possible, the addition of road scrapings or similar material. Grasslands are often densely populated with the black slugs which have such voracious appetites and which seem to prefer vegetable seedlings to any other food. It is to be hoped that the widespread belief of the farmer in the decimating influence of severe weather is correct; if so, great numbers of slugs will now be killed. Here, again, good cultivation is one of the best preventives. Dusting the seedlings with lime and soot, though not both together, as late in the day as possible, will kill a good many, for the slugs are largely nocturnal feeders; but it must be remembered that both soot and lime lose their killing virtues quickly when spread on the ground. The old country plan used to be to search the plants after dark and gather up all the slugs discovered; this is an unfailing method of ridding the garden of slugs, but the necessary lantern is taboo just now. Pieces of old sacking or strips of board laid on the ground make good traps for slugs, and these can be turned over in the daytime and the resting slugs easily killed.

It is always tempting to sow some seeds as early in the year as possible in the hope of earlier and better crops; but this is generally a temptation to be resisted. After a severe and prolonged frost, freshly broken land requires a considerable time to become suitable for seed-sowing, and any undue haste is certain waste of labour and seeds. The surface must first be well worked into a fine tilth before seeds are sown, and this state can only be obtained by working when the weather is kindly and the soil has lost all the stickiness inseparable to a thaw. The most suitable vegetable seeds for February sowing are Broad Beans, of such sorts as Improved Windsor or good Longpod, and of this vegetable one pint will be sufficient for the average allotment holder. The seeds should be set singly, 6 inches apart, in double rows. Any good round-seeded Pea of William I. type may be sown, and a small packet of seed will be sufficient. As soon as a good seed-bed can be prepared, small quantities of Tripoli Onion, Early Nantes Carrot, an early Cabbage Lettuce, French Breakfast Radish and Parsley should be sown, but only in short rows, as these first crops are often uncertain.

The apportioning of his plot is sure to cause the beginner some anxiety, as he lacks the experience which tells just how much space he should allow for each vegetable.

When grassland is first broken up, it is a splendid plan to grow little else but Potatoes, as these smother a great many weeds and so materially help in cleaning the ground, moreover, the frequent hoeing, earthing up and eventually lifting the crop all help to keep the soil in a clean condition. But such a method will scarcely commend itself to the majority of allotment holders, who, very naturally, wish to grow

DADDY-LONG-LEGS OR CRANE-FLY.

1, Male Daddy-long-legs. 2, Female Daddy-long-legs. 3, Eggs. 4, Grub. 5, Chrysalides.

a variety of vegetables. To plant the whole of a 10-rod plot, from ¾cwt. to 1cwt. of Potato seed would be required, according to the type of sets. Of other vegetables, average quantities may be put as follows, after allowing room for 28lb. of Potatoes, as this vegetable will be of the greatest importance: Broad Beans, 1 pint; Scarlet Runners, ½ pint; Peas, 1 quart in variety; Onions, ½oz. in two sorts; Carrots, ½oz. in two sorts; Parsnips, ½oz.; Turnips, ½oz. in three sorts. The remaining seeds of such vegetables as Cabbages of all sorts, Cauliflower, Broccoli, Beet, Leeks and saladings will be most economically bought in the penny packets as supplied through reliable seedsmen.

VEGETABLE INTER-CROPPING

By Edwin Beckett, V.M.H.

A PROBLEM which is of considerable interest to landowners, and of great moment to the owner of a small garden or allotment at the present time is how to make the very best use possible of their available ground in the production of vegetables and sharing in the national effort. Our land is some of the best in the world, and it has always been a matter of astonishment to me that more energy has not been thrown into the production of those important items which appear in our daily menu all the year round.

I strongly advocate a system of intercropping at the present time, especially for the man with a limited space of ground. For the benefit of those interested I am giving an account of an experiment I conducted here at Aldenham last season on a plot of ground about 100 yards long and 12 yards wide, as preaching without proof is of little value in these days.

Of course, the necessary preparation to obtain the highest return from the ground is a proper system of deep tillage of the soil in conjunction with proper drainage, and our plot referred to was trenched 3 feet deep the previous season and the subsoil at the bottom brought to the surface. This yielded splendid crops of Cauliflowers and early Broccoli. Last season spadework was practically impossible owing to the unusually wet early spring, which, combined with the severe shortage of labour, caused the preparation of the ground to fall into arrears. To remedy this I purchased a small plough, which proved a success on this particular piece of ground as well as on land near by.

First, a thorough dressing of decomposed garden refuse was applied to the surface. During March the ground was ploughed twice, then harrowed down to a fine tilth, and about the middle of April Cauliflowers were planted in rows 3 feet apart, with 2 feet 6 inches between the plants in the rows. A row of Peas was grown on each side, running east to west. Brussels Sprouts and Victoria Kale were planted on June 8 between the Cauliflowers and in the same rows. Between the rows Leeks were put out about 1 foot apart for six rows, and the remaining rows sown with Turnips. The Cauliflowers were cleared away as they matured, and the ground deeply hoed.

The accompanying photograph, taken about a fortnight since, depicts the plot and shows the Brussels Sprouts, Kale and Leeks then growing—a first-rate crop. The whole result of the experiment was absolutely satisfactory; in fact, it exceeded my most hopeful anticipation. It has also demonstrated that with a little careful consideration a supply of summer and winter vegetables can be thus obtained from the same plot, which can also be utilised in the following season for root crops or Potatoes.

INTERCROPPING OF WINTER VEGETABLES—BRUSSELS SPROUTS, KALE AND LEEKS AT ALDENHAM

THE GROWING OF VEGETABLES

By Mrs. C. W. Earle.

THERE has been so much lately in all the newspapers about the importance of growing Potatoes, but it surprises me that even in gardening papers there is so little allusion to various vegetables seldom seen in English gardens. I propose only to name the most unusual vegetables—not that they are essentially better, but they make a change and a variety which suit our uncertain climate; some like a hot, dry summer and some a cold, wet one.

One of the best of the seldom-grown vegetables is Seakale Beet; the midribs are silvery white and very large, and should be cooked like Seakale. The leaves should be dressed like Spinach, and look well when put on each side of the white stalks, which can be covered with a white sauce. It can be dug up and the roots served like Salsify, or they can be left where sown in the summer for use in the late autumn. If left in the ground they sprout again. The second sowing should be made in September and pricked out, when they come in most useful the following May and June.

Another easily grown vegetable is Campanula Rapunculus, called Rampion, which grows naturally in the valleys of Switzerland. When left in the garden the long-stalked flowers do most beautifully in water and last well. The seed is exceedingly small, and should be mixed with a little dry sand to prevent one sowing too thickly. Even then the seedlings will require much thinning out. It is best sown in drills in May. The young leaves are used as a salad or cooked like Spinach, and some plants are left for the flowers the following year. Here, again, the roots may be cooked, and are good with a cheese sauce.

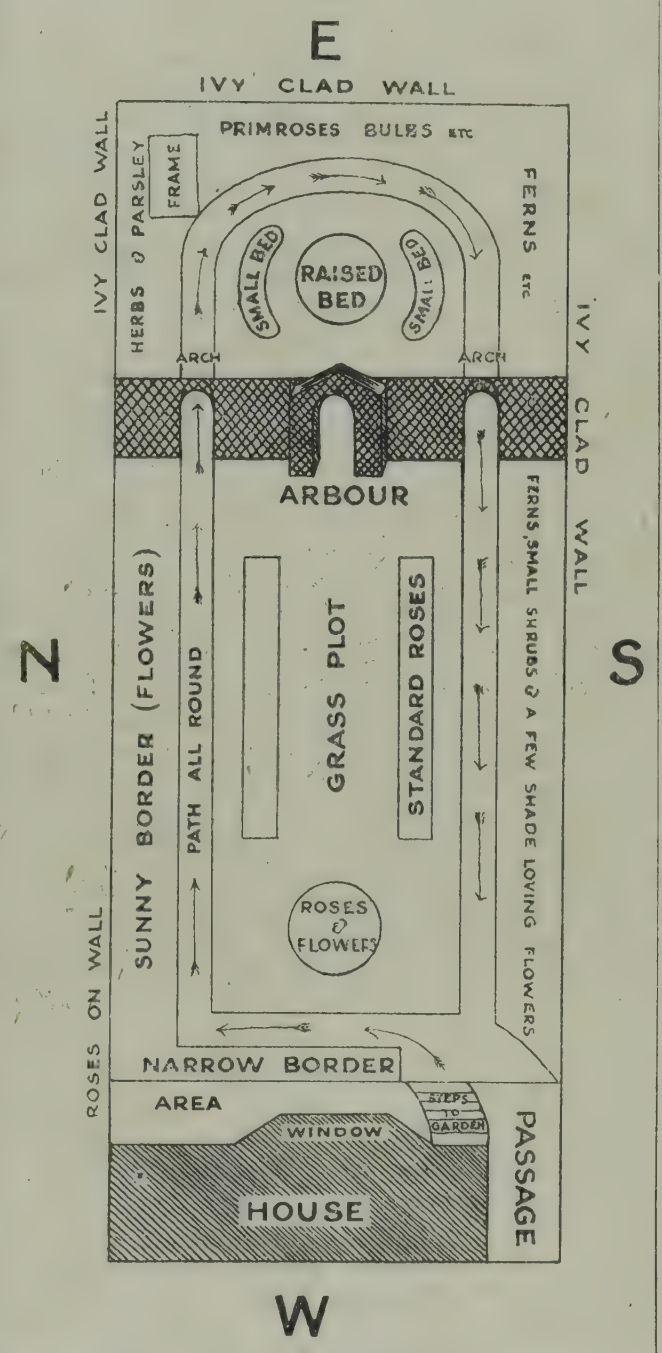
Few people, even when they grow it, understand the art of bleaching the Witloof Chicory. Sown in June and well thinned out to quite 6 inches apart and watered in very dry weather, it should be dug up in October, and after the leaves have been cut off, the plant, roots and all, should be left on the bed exposed to the air for a fortnight or three weeks; then the roots should be planted in deep boxes, leaving 8 inches between the soil and the top of the box. A cover of some sort ought to be put on the box to exclude the light, and the box put in the warmest place you have. It would do in a bathroom, or in a warm greenhouse under the stage.

THE VILLA GARDEN

I AM glad so good a gardener as Mr. Dillistone agrees that the garden shown in your issue of the 6th ult. is not a model to be followed. I wish I could see in his plan any approach to a good general formula. Personally, I agree with "Formakin" that an uninterrupted slab of grass is the ideal. There is no room in the average villa strip for so much restless shaping of the ground, and if the space must be cut into beds, balanced arrangement is essential to any trained eye. Surely it would be pleasanter to get a straight vista along a central walk from the bay window with a balanced arrangement of beds on either side. There is, too, some advantage in getting at all the beds from a dry path. There are altogether too many features in this plan, and too many irregular and curved lines in the space of a small rectangular piece of ground. My plan was only meant to show what seemed the maximum amount of breaking up of the ground legitimate in so small a space, and was made over the original offending plan with no consideration of the size of the beds. The serrated edges of my lawn were a small concession to the dislike of a straight line in all such gardens, but I quite agree they are a mistake—I am all, personally, for the simple, unbroken lawn. I certainly do not see Mr. Dillistone's point about my beds—they all form patterns out of the hard paths. His point about the paths seems to me negligible compared with the disagreeable effect of a path out of the centre the whole length of so small a space. I am sorry I have offended the feelings of the author of the offending plan. The owner of a suburban garden can, of course, have all the features he enumerates and disposed to his own fancy; in fact, he generally does, as is evident by the number of gardens the author of the plan confesses he has been responsible for. I am unoriginal enough to think there is a virtue in monotony, and that villa gardens should not ape the features of larger gardens in their small compass. The simple lines of a villa garden are determined by the size of the plot and the aspect; no more. Incidentally, I never could see why the villa should not be arranged on the plot to suit the aspect, and put right back on the plot in some cases, as "Formakin" suggests. I should like to add that "Formakin's" Rose-bed seems about as irresponsible as his comments on the villa garden.—P. MORLEY HORDER.

THOUGH I feel it folly to rush in where better folk fear to tread, I must take off my hat to Mr. Morley Horder, not because his plan is good, but because he has had the courage to stand up for the good planning of very small gardens. The only fault I can find with THE GARDEN, which I have read weekly for years from cover to cover, including the advertisements, is that I have never known it to publish a really good plan. It is ungrateful to say this, for I have learnt more from THE GARDEN than any weekly pennies could possibly repay. If "Formakin" would "cut the cackle and come to the 'osses" he might be both helpful and interesting, but his plan is—well, all that the designer of the offending plan would say about it if he did not happen to approve. The designer of the offending plan says he has laid out scores of such gardens. I quite believe him; one sees them in hundreds, not scores.—M. H. SCOTT-NICHOLSON.

As a city-born and suburban-bred woman (who has also spent some years in a "provincial" town) I cannot read "Formakin's" remarks without protest. Oh, "Formakin," methinks you maliciously malign the "keen business man." Many such have I known, "honourable gentlemen" as any Members of Parliament, and by no means slaves of Mammon; but, on the contrary, glad to quit the grind of their offices and, getting rid of the grime of town and doffing the business suit, slip into a dear, disreputable old coat (the despair of their womenfolk!) and, lighting the shabby old pipe of peace, potter in the little villa garden where perchance there may be a few rock plants, which will be



PLAN OF "ANNE AMATEUR'S" TOWN VILLA GARDEN.

shown you, with some "London Pride." If "Formakin" were better acquainted with town terraces, he (or she) would know that a garden in *front* of the "ugly" house (the architect, not the tenant, is to blame for its ugliness) would be continually invaded by tradesmen and street boys, who would soon strip it of any flowers which succeeded in surviving the poisonous motor dust which chokes and strangles vegetation (even on country roadsides, alas!). As for Ivy-clad walls—in theory, excellent; but in fact, execrable! I had a town villa garden once for some six years, and the Ivy planted by a predecessor formed so safe a shelter for snails and other garden pests that I had to sow all seeds in boxes on the back bedroom window-sills, and I toiled up steep stairs daily with a watercan to the top of a high town house. Nevertheless, as I proudly related to an old friend, I had flowers in that little garden for ten months of every year.—ANNE AMATEUR.

FOR many years past I have been a constant reader of THE GARDEN. Its contents have alway given me great assistance and pleasure, its criticisms have always been just, and given in a gentlemanly spirit, so that it is with disappointment I read the tirade of "Formakin" in the issue of February 3. The true spirit of gardening is not confined to any country or peoples. It may be shared by the noble in his palace gardens, by the cottager in his cottage garden, or even by the business man in his villa garden. May I, with all respect, refer "Formakin" to that splendid article by H. Correvon on "Alpine Poppies" in THE GARDEN of January 13, page 39, wherein he will see manifest the true spirit of the gardener, a worker for his present generation, and his efforts spreading to the whole of a countryside, giving pleasure to thousands of passers-by and placed as a memorial to the departed. Again, may I direct his attention to the article on "The Planning of Gardens" in the issue of THE GARDEN of November 4, 1916, page 537, wherein Mr. Thackeray Turner commences his planning of gardens by quoting Bacon's immortal words: "God Almighty first planted a garden, and indeed it is the purest of human pleasures." If we work in our gardens in this spirit, we may perhaps behold something of its great mysteries, and our lives may be ennobled thereby, even though we work in a business man's villa garden.—J. P., *Cheshire*.

MR. MORLEY HORDER has my sympathy in his objection to the plan of the villa garden in your issue of January 6. I find it quite difficult to follow the reasons of its author. With all the numberless beds and trees dispersed over the turf and surrounding it, the man who had to use the mowing-machine would, I think, have his temper sorely tried. But both this plan and others which you have published cannot be properly criticised because of their want of a scale and no knowledge being given of the surrounding conditions. For persons who have only one garden I cannot conceive that they would choose to make that one garden a Rose garden. Charming as a Rose garden is, one must remember that there will only be a real show of blooms for two months, and some flowers at intervals for about four months. The only at all satisfactory Rose garden for such a purpose would be one planted with different forms of China Roses; Fellenberg, for example, might be expected to be in flower for about six months of the year. Supposing it is necessary to give your garden some shelter by putting up posts and beams, I should certainly want such an erection to have a good many things upon it apart from Roses. The Winter Jasmine I should consider essential, and I think I should want Virginian Creeper; both of these plants are such a success if cut back hard at the right time. Again, Solanum jasminoides could hardly be omitted; and Plumbago, although I know it is not hardy, is so easily dug up and put away in a corner of the greenhouse or vinery and replanted again in the spring. However, to the making of lists of plants there is no end, but my meaning is that the garden close to the house should be cheerful as long as possible. Think of the joy of the first Pyrus japonica showing its flowers in late winter or early spring; one must have this close to the house.—THACKERAY TURNER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—The severe weather of late has, I fear, crippled the plants sown in the autumn where they were not protected, and it would be wise to sow a batch in boxes for planting out either to fill gaps or to make a new plantation. The protection of a cold frame is sufficient; here the plants will grow sturdily. Longpod and Green Windsor are suitable varieties.

Shallots.—Fork over the ground in dry weather, rake it down smoothly, scatter wood-ashes over the surface, and plant the bulbs in rows 9 inches apart, pressing them firmly in the soil for three parts of the way up the bulb.

Parsley.—Make a sowing in a box in a cool house to raise plants for transplanting in the open in March, from which the best results are obtained.

Tomatoes.—Sow seed of Sunrise and Golden Perfection for the main summer crop under glass. A temperature of 60° is ample. Pot off the plants as soon as they are large enough to handle, and give them an open site near the glass to encourage sturdiness. Gradually harden them off in cooler quarters.

Brussels Sprouts.—Sow seeds of Exhibition or Dwarf Gem in boxes in slight warmth. When the plants are well through the soil, remove them to cooler quarters. From this batch plants 4 feet high may be obtained if the cultivation is on a liberal scale. Far too many persons are only sowing the seed, when really the plants should be ready for putting out into their final quarters. A long season of steady growth is required to achieve the best results. When the plants are large enough to handle, transplant them into a cold or a temporary frame in 2 inches of light, rich soil over leaf-mould or rotted manure, into which the roots will run and thus enable the plants to be lifted with a ball of earth attached to the roots; this prevents a check to growth while replanting.

Plants Under Glass.

Chrysanthemums.—Plants intended to give large or medium-sized blooms in extra numbers should now have their first shift into 4-inch pots. Pot firmly in fairly rich soil, and give the plants an open site close to the glass to induce a stocky growth. Single-flowered varieties and plants of a bush type should have cuttings inserted at once in a cool house, to avoid unnecessary heat to make up for loss of time.

Primula obconica.—A pinch of seed of a good mixed strain sown in gentle heat will provide flowering plants in the autumn. This type of Primula gives such a variety of colours and flowers so incessantly that it warrants much more attention than it receives, although the culture is so simple.

Grevillea robusta and similar plants that are so useful for decoration can be easily raised from seed sown now in heat. They entail but a minimum amount of labour, and for this reason are all the more worthy of attention.

The Shrubberies.

Pillar Plants.—Where shrubberies are being overhauled, cutting out useless subjects, such as common and Portugal Laurels, replacing them with choice flowering subjects, like the better forms of Berberis, Deutzias, Philadelphus, Pyrus, Diervillas, &c., opportunities are sure to crop up for enabling gaps to be filled with pillar plants, such as Clematis Jackmanii, Rambler Roses of the Wichuraiana type, and variegated Ivies, all of which, especially in late summer and autumn, serve to brighten what might otherwise be a dull part of the garden. Single poles at least 12 feet long will support the tallest subjects. They are more easily fixed than tripods, which take up too much space in this part of the garden.

Bullfinches need much scaring at this season to prevent the wholesale loss of buds from Thorns, Peaches, Crab Apples, Lilacs and Diervillas.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—A sowing of this popular winter vegetable should now be made, as it requires a long season of growth. Seed should be sown thinly in boxes, so that the seedlings may not become drawn and weakly before pricking out on a mild hotbed. After repeated trials of different sorts, the variety Solidity has proved itself to be the best and most reliable for our district. It is of dwarf habit, a grand cropper, and of excellent quality. It is sent out by Messrs. Alexander and Brown of Perth.

Cauliflowers and Cabbages.—Sowings of these should be made and pricked off in like manner to Brussels Sprouts for succession.

Seakale and Rhubarb.—Further batches of these should be put in again for forcing, using a corner of the Mushroom-house or underneath the stage in a warm greenhouse for this purpose.

Celery for Autumn Use.—A sowing of a good white variety must now be made where Celery is wanted early in the autumn. Sow the seed thinly, and after germination a place should be given the seedlings on a shelf near the glass, so that the plants may keep sturdy until pricked out in boxes or on a hotbed.

Fruit Under Glass.

Early Vines.—Growth in many cases will now be far enough advanced to be showing the bunches, and one can now decide on what to leave and what surplus may be removed. Stop the laterals at the second leaf beyond the bunch. The temperature may now be increased from 55° to 60° by day and from 50° to 55° by night, with a general increase in the moist conditions of the house. In the tying down of the laterals, care must be taken to do the work gradually, and it is best done early in the morning. Ventilation must be given with care, more especially if the wind is from a cold direction.

Plants Under Glass.

Single Dahlias.—There has been a tendency during recent years towards the growing of single flowers, and none gives more gratifying results than the single Dahlia. From seed sown now strong plants may be had ready for planting out during the first week of June. The seedlings are remarkable for the great variety and brilliance of their colouring. Sow in pans in ordinary compost, and when the seedlings show their second pair of leaves they may be potted off singly into small pots and placed in a warm greenhouse. Always watch that the plants are not allowed to become drawn and weakly through being too close together. Gradually harden them off before transferring to the cold frame.

The Pleasure Grounds.

Pruning Trees.—Any trees or large shrubs in need of pruning may now be dealt with, allowing the hand to be guided by the brain in this work, as a badly mutilated tree may long stand as a monument of incapacity. Reckless hacking and slashing should be avoided, and it is always better to cut too little than too much. By doing the work periodically and in moderation, the appearance of the shrubs and trees is not altered to any appreciable extent, while that overgrowing which spoils the appearance of so many gardens is avoided.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

NEW CARNATION COUNTESS OF WILTON

IN the early days of the Perpetual Carnation the first varieties were very crude in colour. Many people can remember, for instance, the first good variety, Mrs. T. W. Lawson, which was somewhat of a blue cerise, almost magenta. Gradually a fine variety of colours have been evolved, until in Countess of Wilton we have a perfect art shade of mulberry terra-cotta, a shade which varies between a chestnut red, satined and shot with a lovely shade of crushed mulberry, and an absolutely non-clashing shade of red.

THE BEAUTIFUL AND FRAGRANT CARNATION COUNTESS OF WILTON.

The flowers have the especially important point of perfume, which all breeders should aim to retain; for while improving the size and colours of flowers and selecting novelties for these points coupled with good habit, the tendency is to lose the Old Clove perfume so dear to the lovers of

Carnations. During spring, summer and autumn Countess of Wilton vies with the sweetest of all Carnations, although, of course, in the dull winter days most flowers lose much of this sweet quality.

The plant is very quick in growth, and it is known as a big producer of flowers. While this may not be seen in every market nursery for some years (as the "man in the street" has yet to be educated up to the best colours), this variety is sure to appeal to those with artistic tastes. Countess of Wilton was the first Carnation of art colour to receive the award of merit from the Perpetual-Flowering Carnation Society, when it was exhibited at the Carnation show in December last.

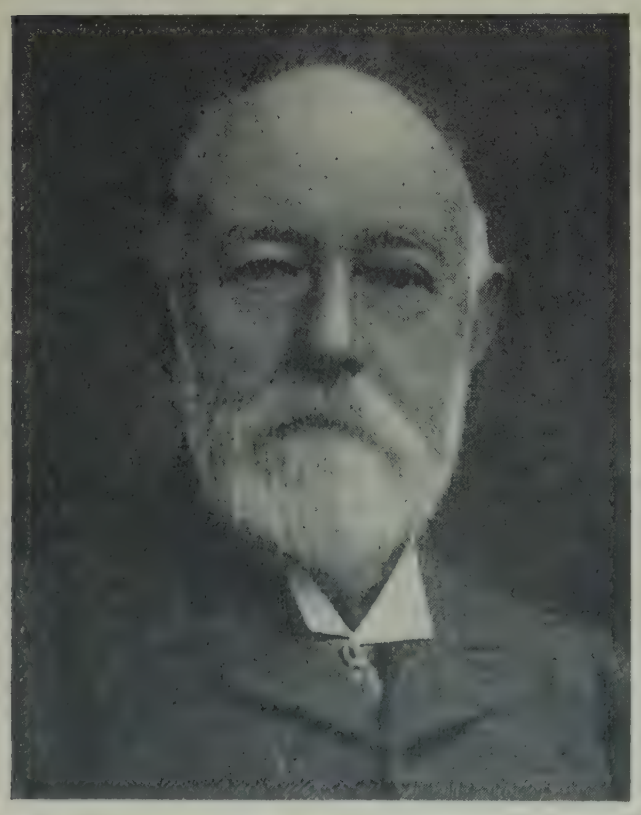
OBITUARY

CAPTAIN CHRISTY.

THE National Rose Society has had a loss among its members of one of its oldest rosarians, Captain Christy. I had known him for some years prior to the foundation of the National Rose Society. He was in the early sixties an enthusiastic grower and exhibitor and a keen judge, while personally he was a most courteous gentleman and a lovable man. He was an early exhibitor at the Reigate Rose Society's shows, fighting keenly for the trophy against his friend Mr. J. D. Pawle, from whom on one occasion he wrested it. I cannot recollect whether he held it for good, but I remember it was a most difficult task which we two judges had to fulfil. The stands differed in one or two points only, and I remember as a young judge, and both exhibitors being my friends, what a responsible position I was placed in. I learnt a lesson from the defeated exhibitor, Mr. J. D. Pawle, of how to take a defeat.

In that or the succeeding year, at Lyons, Lacharme had a very fine Rose for which a name was wanted. Captain Christy had recently been a visitor at Lacharme's nursery, and I suggested the Rose should be named after him. It has lasted since the early seventies until now—forty years. Captain Christy was one of the founders of the National Rose Society, being present at the meeting on the Adelphi Terrace, and was selected as one of the first committee, of whom only about seven remain. His friend, Mr. Scott of Bond Street, served afterwards as treasurer of the society for some years. Until last year "the Captain," as he was affectionately called by his fellow-rosarians, never failed to attend the National Rose Society's shows, and I understand he retained his love for the national flower until his death.

GEORGE PAUL.



THE LATE CAPTAIN CHRISTY.

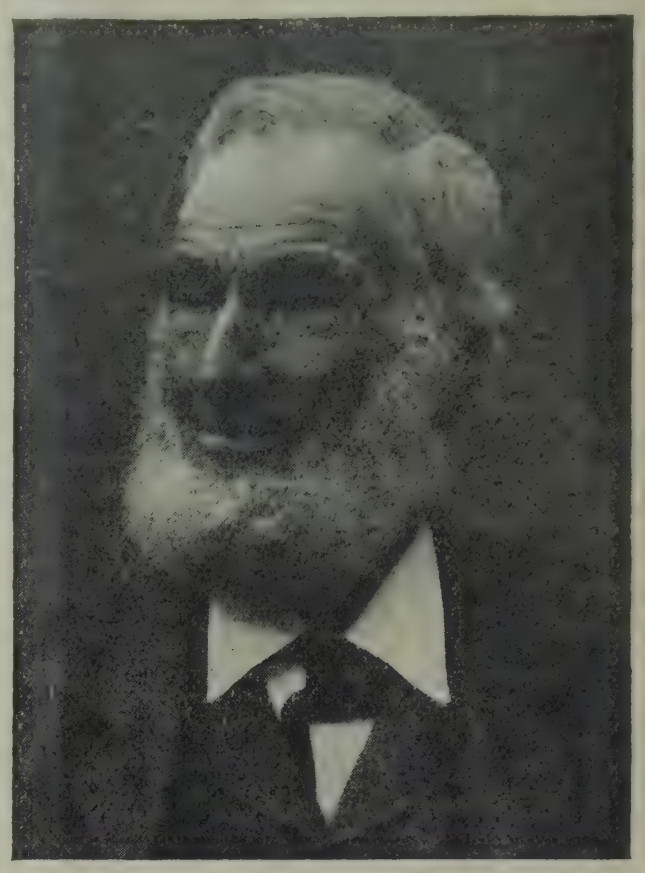
ALFRED HEMSLEY.

WE learn with regret of the death, from cancer in the throat, of Alfred Hemsley, which occurred at his residence, Lewisham, on the 30th ult., in his sixty-sixth year. Mr. Hemsley commenced his gardening career in a general market garden nursery at Hassocks, Sussex. In 1878 he entered the Royal Horticultural Society's gardens at Chiswick. Leaving Chiswick in 1882, and after a short engagement at Carlisle, he entered the service of Mr. H. B. May, Edmonton, with whom he remained until 1899. His success there as a Fern-grower was well known in the trade. Mr. Hemsley wrote articles for the horticultural Press for many years, and from 1903 he devoted himself entirely to the literary side of his profession. He was author of the "Book of Fern Culture" and joint author with Mr. John Fraser of an edition of "Johnson's Gardeners' Dictionary," which has been published only a few days.

CHARLES ROSS, V.M.H.

CHARLES ROSS, the veteran gardener and distinguished raiser of new Apples and other fruits, passed away on the 4th inst. at Westgate-on-Sea, at the advanced age of ninety-two years. By his death we lose one of the most striking figures in the gardening fraternity. This venerable and highly esteemed gardener devoted nearly one-half of his long years to the work of intercrossing hardy fruits, and succeeded in producing superior varieties of dessert Apples. His greatest success was about 1886 with the Peasgood's Nonsuch and Cox's Orange Pippin cross, two Apples of widely dissimilar character, but from which came the variety Charles Ross, which perpetuates the memory of the departed veteran better, perhaps, than any other variety of his raising. The same cross also gave us the varieties The Houblon, Rival and Renown. An appreciation of his valuable work appeared in THE GARDEN, November 28, 1908, and at that time it had fallen to Mr. Ross to obtain from the Royal Horticultural Society no fewer than three first-class certificates and ten awards of merit for Apples. Besides the four Apples named, Welford Park Nonsuch (raised in 1892), Bella, Armorel, Atalanta, Mrs. Phillimore, Paroquet, Hector Macdonald, Encore, Ruddy, Opal and Excelsior are of his raising.

The Royal Horticultural Society presented Mr. Ross with a Hogg Memorial Medal and the Victoria Medal of Honour in Horticulture as evidence of its appreciation of the work he had done in Apple breeding. Mr. Ross was of Scotch extraction and was born on the Dalmeny Estate, Midlothian, where his father was gardener to the then Earl of Rosebery. As a youth he served several years in good Scotch gardens, including Dalkeith, under the famous McIntosh. Later he took the position as head-gardener at Fairlawn, Kent, where he planted a Wellingtonia gigantea as a memorial of the celebration of Peace after the Crimea War in 1856. In 1860 he removed to Welford Park and was head-gardener there for almost forty-nine years, from which position he retired in October, 1908. From their origin until recently he had not missed the Royal Horticultural Society's fruit shows as an exhibitor or as a judge.



THE LATE CHARLES ROSS, V.M.H.

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

SULPHATE OF IRON TO IMPROVE THE COLOUR OF ROSES (*Maida Vale*).—Iron sulphate is likely to be of use only in soils containing much chalk or limestone. In such soils iron is at times deficient, but there is usually quite enough for the requirements of plants. Basic slag should be useful, as there is little doubt that potash is one of the most active substances in producing plant colour, and the lime in the basic slag is capable of setting free the potash locked up in the soil. Any ordinary chemical manures may be used in spring, after the application of the iron sulphate.

THE GREENHOUSE.

CAMELLIA BUDS DROPPING (*Mrs. S.*).—The buds of Camellias may drop from different causes. In the first place, it may be owing to dryness at the roots, especially if in a pot or tub, as though the surface may appear moist, perhaps the interior of the ball of earth is quite dry. Next, if the roots are kept too wet, it would have the same effect. Another probable cause is an excess of atmospheric moisture in the structure it is grown in, for a free circulation of air is very necessary for the welfare of Camellias in general. If the air is too much surcharged with moisture, it is apt to collect in the flower-buds as they are in process of development and cause decay to set in just at the base of the petals.

TREES AND SHRUBS.

A BELT OF DOGWOOD (*A. W. R.*).—The best Dogwood to use for the effect of coloured bark in winter is Cornus alba, but if the ground is wet you would probably do better with coloured-stemmed Willows, such as Salix alba var. vitellina, with yellow bark, and the Cardinal Willow, with red bark. If you wish to have a Dogwood that will produce colour effect in summer as well as in winter, Cornus alba Späthii, with golden leaves, or C. alba sibirica variegata, with silver variegated leaves, should be planted; in both cases the colour of the bark is quite as bright as that of the type. Alders would be rather heavy behind the Cornus, and a Willow, such as Salix elegantissima or S. babylonica, would be more elegant and pleasing. The Dogwood can be grown in a little shade.

PRUNING A LAUREL HEDGE (*M. C. K.*).—You can prune your Laurel hedge hard back without fear of injuring it seriously. The work had better be done in April; then new shoots will soon appear. After pruning, the ground might be pricked over lightly with a fork and some well-decayed manure applied. This would materially assist the new growth. It would also be advisable to dress the wounds with tar, both for the sake of appearance and as a protection against fungus spores.

FRUIT GARDEN.

PEACH TREES FAILING TO FRUIT (*E. L.*).—Usually it is not necessary to artificially fertilise the flowers of Peach trees growing outdoors, the wind, bees, &c., effectually doing this for us. However, you might try the effect. The way to do so is to draw a rabbit's tail gently over the flowers about midday in sunny weather when the pollen is dry, thus securing its contact with the stigma or centre column of the flower. Without such contact fertilisation cannot take place. Protection for the flowers.—Repaired old herring-nets give the best protection. Place laths or poles over the trees and spread the nets two folds over the poles. The nets should be near the trees, but not resting on them. Remove occasionally in fine weather for a few hours in the middle of the day; not otherwise until after the fruit is set. Too great a draught.—The failure of your trees, we think, is at any rate partly due to the draughtiness of the position. To stop this, place some straw wattled hurdles (home-made and cheap) right across the 6-feet space at distances of 3 yards apart. This will stop the draught and greatly increase the warmth of the position. Make certain the trees are not suffering from dryness at the roots. At the end of March apply a mulching of well-rotted manure over the roots of the trees.

NAME OF FRUIT.—*E. S. C., Tenbury.*—Apple Annie Elizabeth.

KITCHEN GARDEN.

BORDER FOR POTATOES (*J. J.*).—If we understand you correctly that the border is on the opposite side of the wall from that containing the fruit trees, you certainly might plant it with Potatoes with good chances of success. In so narrow a space, however, there would only be room for a single row, though even this would yield a considerable supply for a small family for some time. The fact that no Potatoes have been grown therein for some years would greatly favour a good result, since there is nothing so beneficial to the crop as new or fresh land. You would do well, however, to increase the soil depth as much as possible by trenching or bastard-trenching; indeed, soil depth is an essential in the case. Get the ground broken up at once, and if you have no further use for the Violets, trench them in. Any manure, which should be well decayed, would be best added fairly low down at the same time. If you are thinking of planting one variety only, we would suggest Sutton's May Queen. If two varieties, that named and Midlothian Early would be the more suitable.

POTATOES SPROUTING TOO SOON (*Cliffe*).—We do not know the variety King George. King Edward VII., of course, everybody knows as an excellent late sort. To keep seed Potatoes from sprouting too early is almost entirely a question of temperature. An attic, being near the roof, gets rather warm sometimes, especially in autumn, when exposed to the sun. The tubers should be kept in an airy, light room near the ventilators on the north side of a house, where the temperature is coolest and practically always the same. Whether your Potatoes are early or late (we should think they must be early by the earliness of their growth), we should plant them out in a warm border at the end of this month or early in March, placing some leaf-mould in the bottom of the drill for the Potatoes to rest on, and cover the same over to the depth of an inch, afterwards adding the soil in the usual way. To retard, place in the coolest position you have, such as near a window, and protect from frost. Scotch earlies.—Do not force the growth of the sprouts; they will come on soon enough for planting outdoors. There is nothing gained by planting early Potatoes too soon and before the soil becomes warm.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held on February 13, if quite small, was of not a little interest in the several departments. Choice Orchids were well shown. An exhibit of winter-flowering Sweet Peas was in the nature of a novelty. Th collection of Grasses from Mr. J. MacDonald was of a most instructive character, meriting considerable attention. A small collection of fruit came from Crawley. Two or three flower novelties received recognition.

FLORAL COMMITTEE.

Present: E. A. Bowles, Esq. (chairman), and Messrs. W. J. Bean, J. Hudson, J. Green, W. B. Cranfield, G. Reuthe, G. Harrow, J. W. Moorman, J. Heal, E. F. Hazelton, C. R. Fielder, W. Howe, J. Jennings, H. Cowley, C. Dixon, J. Dickson, W. H. Page, C. E. Pearson, W. P. Thomson, E. H. Jenkins, G. Paul and R. C. Notcutt.

From Mr. J. Simmonds, The Nurseries, Hounslow, came a collection of forced Hyacinths and Daffodils, the former in white, blue and red flowered varieties, the latter chiefly trumpet-flowered Daffodils and Double Van Sion (N. Telamonius fl.-pl.). They were quite good.

Messrs. Allwood Brothers, Hayward's Heath, showed excellent Carnations in the cut state. We noted Salmon Enchantress, Triumph (crimson), Highland Lassie (white ground, scarlet markings), Bishton Wonder (a very remarkable bit of colour, with fine Clove fragrance) and Mary Allwood as among the best. Some Perpetual-flowering Malmaisons were also on view.

Messrs. Herbert Chapman and Co., Rye, had an exhibit of coloured Freesias; seedling Daffodils raised from King Alfred, showing considerable variety of tone; Iris Krelagei, and many pots of Tulipa Kaufmanniana var. ryensis, a bold and striking form of the typical species. A most welcome and attractive exhibit.

Carnations from Messrs. Stuart Low and Co., Enfield, were well staged, bold vases and stands being employed. Triumph (crimson), Eileen (a good pink novelty for the present year), Pink Sensation, Red Ensign (new), Philadelphia and White Enchantress were among the best. Countess of Wilton (a novelty) is also remarkable for its new shade of colour.

Messrs. Dobbie and Co., Edinburgh, contributed seven varieties of Morse's Winter-flowering Spencer Sweet Peas, so largely grown in the United States for winter blooming. Coming at such a time and after such weather they were in the nature of a revelation. Snowflake, Morning Star, Spring Maid, Heatherbell and Melody were the chief of those shown.

A collection of Grasses in dried specimens from Mr. James MacDonald, comprising some sixty varieties, was among the most interesting things in the hall. All were beautifully mounted and well staged, affording an excellent opportunity for study and comparison. A silver-gilt Flora medal was deservedly awarded.

Messrs. Cheal and Sons, Crawley, contributed Polyanthuses in flower in boxes in considerable variety.

Pots of Iris tingitana in flower were shown by Messrs. Barr and Sons, Covent Garden.

Mr. J. Dickson, gardener to Her Grace the Duchess of Bedford, Chenies, contributed blooms of Primula obconica alleged to be crossed with P. sinensis.

ORCHID COMMITTEE.

Present: Sir Jeremiah Colman (chairman), Sir Harry J. Veitch, and Messrs. J. O'Brien, Walter Cobb, W. Bolton, R. A. Rolfe, F. J. Hanbury, Pantia Ralli, R. G. Thwaites, E. R. Ashton, E. H. Davidson, A. Dye, C. H. Curtis, J. Charlesworth, R. Brooman White and T. Armstrong.

Messrs. Armstrong and Brown, Tunbridge Wells, contributed a most interesting lot of Orchids, in which the pretty sub-prostrate Epidendrum polybulbum and E. p. album were conspicuous. Less than 6 inches high, with chocolate and white, and yellow and white flowers respectively, they were most attractive. Odontoglossum Victory variety (white ground, red blotched), O. ardentissimum Mrs. Norman Cookson (very heavily blotched), O. Peerless variety (very solid white ground and claret markings) and O. Amethyst (yellow ground, orange blotches and rose tips) were very beautiful. Maxillaria sanguinea, with hooded flowers coloured carmine, and brown sepals nestling amid grassy foliage, was among rarely seen species.

Messrs. Hassall and Co., Southgate, showed a series of Cymbidiums, two forms of C. Sybil (white and cream), C. Alexanderi (creamy to ivory white, with scarlet and rose pink lip), and C. Corona (yellowish bronze and velvet, crimson-marked lip) all being good. Sophro-Cattleya Saxa is a finely coloured form of large size. It is wholly coloured red, save for its yellow throat, which is very distinct.

Messrs. Charlesworth and Co., Hayward's Heath, showed a delightful variety of Cattleyas and Odontoglossums. Of the first, C. Enid alba was present in two good forms, one of which was very chaste and pure. The golden orange coloured Brasso-Cat-Lælia Joan was charming, its fringed and goffered lip margin a great feature in a highly attractive flower. Another form of this had rosy orange sepals, the carmine lip having a yellow centre. Odontoglossum crispum Xanthotes (very pure white), O. Jasper (a remarkably chequered flower, white and crimson) and Odontioda Joan (intense maroon and wine colour) were among other good things.

Messrs. Flory and Black, Slough, had flowering examples of Brasso-Cattleya André Maron and B.-C. Floryi, both having mauve pink shaded sepals and fine mauve-coloured lip with golden orange coloured tube. Both are very handsome. Sophro-Lælio-Cattleya Myra Langley variety, with rosy sepals and crimson lip, was also very beautiful.

FRUIT AND VEGETABLE COMMITTEE.

Present J. Cheal, Esq. (chairman), the Rev. W. Wilks, and Messrs. H. Markham, A. Bullock, W. E. Humphreys, W. H. Divers, J. C. Allgrove, P. C. M. Veitch, E. A. Bunyard, F. Perkins, E. Beckett, W. Bates, H. Somers Rivers, W. Poupart and J. Harrison.

A collection of eighteen dishes of excellent Apples from Messrs. J. Cheal and Sons, Crawley, was the only exhibit before this committee. Some good sorts were Alfriston, Prince Albert (a very fine sample), Annie Elizabeth, Blenheim Orange, Newton Wonder, Crawley Beauty, Lord Derby (almost golden), Bramley's Seedling and Wellington. All were in splendid condition.

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL MEETING.

ON Monday, the 5th inst., the annual meeting of this society took place at Carr's Restaurant, Strand. In the absence of Sir Albert Rollit, who was unwell, Mr. Thomas Bevan occupied the chair. The adoption of the annual report and balance sheet was moved by the chairman and seconded by Mr. Hawes, who congratulated the members on the favourable results of the past year. Under all the difficult circumstances they had had to contend with, he thought the society was in an excellent position.

From the report we gather that after the successful experiment of 1915 the committee were able to arrange a show in 1916 adjusted to the requirements of war-time and ensuring one worthy of those of previous years. It is many years since a formal opening of the show was arranged, but on this occasion the president of the society, Sir Albert Rollit, was accompanied by Countess Chinda, wife of the Japanese Ambassador, who opened the show after an introductory speech by the president. To commemorate this occasion, the society's medal, suitably engraved, was presented to Her Excellency and to the president. In the open classes for Japanese the competition was good. The trade exhibits equalled any staged before, and it was thought that the necessary limitation of space had a beneficial effect on the quality of the exhibits staged and the general aspect of the show.

The committee notes with regret that for the fourth year in succession no certificates were awarded to new Incurved varieties. During the 1916 season not a single new variety of an Incurved was staged for the consideration of the committee, and it desires to draw the special attention of raisers to this fact. The Incurved Chrysanthemum is an essential type, and one of the objects of the committee is to retain and improve all types. This will not be achieved if old types are revived while other types fall out of culture from sheer lack of interest.

A question was raised during the past season as to the limitation of the size of Pompons, it being contended that there was a tendency to coarseness of growth and heavy disbudding with a view to obtaining large-sized flowers. In the opinion of the committee this tendency meant the sacrificing of the particular beauty of Pompons and the destruction of their essential characteristics. After consideration of the matter the floral committee decided to recommend a class in the next schedule for undisbudded Pompons, and this has been adopted. The floral committee further resolved that Pompons for exhibition must not exceed 2¼ inches in diameter, and this limitation will be included in the society's classification.

On November 8 Mr. C. Harman Payne, foreign corresponding secretary of the society, delivered a lecture before the Japan Society on "The Chrysanthemum," the chair being taken by Sir Albert Rollit, who was supported by the Japanese Ambassador and his wife. Mr. Payne's lecture was received with great enthusiasm, and he was awarded the very heartiest thanks of his audience and, later, of the executive committee.

The committee is again in the satisfactory position of being able to report that all liabilities for the year were discharged before the books were closed on December 31 last. The balance on current account at the close of the year was £18 17s. 11d., and the excess of assets over liabilities, £119 7s. 2d. The society may, therefore, look forward to surmounting the difficulties caused by the present war.

The committee is arranging to hold a show during 1917, but the arrangements are not yet completed. A further intimation will be sent to the members as soon as possible.

The motion having been duly carried, the election of officers followed. In this respect there was no change from those of the past few years, all being re-elected. The one-third of the executive committee retiring by rotation were re-elected, except that Mr. W. O. Hiehle was replaced by Mr. W. Robertson.

Mr. Prickett announced the death of an old member, Mr. J. Tulley, and it was resolved that a vote of condolence be addressed to the widow.

WARGRAVE AND DISTRICT GARDENERS' ASSOCIATION.

THE first meeting of the new spring session took place on Wednesday evening, January 31, Mr. R. Doe of Parkwood Gardens, the newly elected chairman, presiding. The evening was given up to "Questions and Answers," and most spirited discussions took place on such subjects as Gooseberry and Currant cuttings, ants, Pea and Bean sticks, pot Mignonette, blanched vegetables, tap-rooted vegetables, Onions, Tomatoes and Cyclamen. The draft rules for the Potato competition were discussed and settled, and will soon be in the hands of members.

Lectures on Garden Cultivation.—The importance of helping people to grapple with the food problem has led the University Extension Board of the University of London to make arrangements for short courses of weekly lectures on "Garden Cultivation and How Soils Should Be Treated to Secure Large Crops." The Board have been very fortunate in securing the services of Mr. F. J. Chittenden, F.L.S., of the Royal Horticultural Society's School of Horticulture, as lecturer, and those who go to hear him may rely on receiving many valuable practical hints based on the most recent research. The lectures deal with soils and subsoils, digging and trenching, pests, the water, mineral and nitrogen requirements of plants, and how to help the soil to supply them. The arrangements so far include one course in Central London in the School of Arts and Crafts, Southampton Row, and another at the Ealing Technical Institute.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 6s. 6d.; Foreign, 8s. 9d.*

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

AIDS TO INCREASED EGG-PRODUCTION

EACH week I propose on this page to deal with points of vital importance where full egg baskets are to be obtained. Many poultry-keepers fail because they attach great importance to what they consider are large and essential items, at the expense, unfortunately, of the hundred and one small details which play so very great a part in successful egg-production.

Egg-Eating.—Nothing perhaps robs the egg basket more than egg-eating, and it is indeed a most annoying vice. It starts in quite a small way as a rule, and, going unchecked because it is invariably unnoticed, the habit spreads through a whole flock of layers. *A broken egg*—so small an item as this—starts the ball rolling. An inoffensive hen samples that delicious yolk, and from that day considers that she lays eggs only to devour them. The next day hen No. 2 sees her sister sampling the egg she has just laid, and both are in "at the finish." With yolk-stained beaks these two culprits jump down from the nests among the other birds. The latter peck off the pieces of yolk attached to the other hens' beaks, and they in turn develop their thirst for yolks, and break all eggs laid from then onwards and greedily devour the contents. Why was that first egg broken?

Lack of Shell.—An insufficiency of shell-forming material may have caused the breakage of the original egg. The birds were not supplied with sufficient shell, resulting in a thin-shelled egg, which very readily got broken. One moral, then, if poultry-keepers are to have increased egg-production, is to see that laying stock have always before them a supply of shell. Many poultry-keepers supply grit only, thinking that this material helps in the shell formation of the eggs. That is not so! Grit aids digestion and oyster-shell supplies the lime for the eggshells. In every poultry-house, therefore, there should be a box of shell, so that the layers can obtain all they require and at times when they desire the same. Some use as receptacles shallow tins, nailing them to the side of the house (inside); but this is wasteful, as the birds very quickly scatter the contents with their beaks, perhaps out of curiosity. Much the better plan is to use small self-supply hoppers. As the shell from the feeding cup is taken by the birds, a further supply falls from the body of the hopper to replace the amount.

Nesting Material.—On the other hand, that *fateful* original egg may have been well shelled, but it became broken upon coming into contact with the hard flooring of the nest-box. But the nesting material would prevent such an accident! All too true had there been sufficient hay in the nest-box. When a hen enters the latter, she is more often than not fidgety before settling down to business. She turns and turns, making a deep impression with her feet in the nesting litter. If the latter is scanty, the flooring of the nest-box is quickly revealed. The moral is to see that the nests are always well supplied with hay. The deeper the nest-box and the more hay therein, the better the laying stock appreciate it. Especially to pullets do my remarks apply. Very few pay sufficient attention to nests and nesting material. The more *inviting* the nest-boxes are made, the more, believe me, will they be used, thereby greatly increasing the egg output.

Adopt Dark Nests.—There are some who trace the egg-eating vice back to the soft-shelled egg, but there is one important detail that they miss. It seldom occurs to the owners to reason it out that had the nests been dark, the hen would not have seen the broken egg. Laying stock—pullets especially—prefer dark nests where they can retire and lay, so to speak, in privacy. Few poultry-keepers realise this, and as one cause of the egg-eating habit I consider nests so arranged that light penetrates therein. Nest-boxes should be fixed in the darkest part of the house, and the fronts should face the dark instead of *vice versa.* Once the layers learn the habit of egg-eating, they very quickly reduce the vice to a fine art. They devour both shell and contents so cleanly that the owner would find it almost impossible to detect the egg-eaters or to discover that the habit was in being. My help has been solicited in several cases recently where the owners complained that they had had "no eggs for months." Feeding and housing seemed in order and the birds were well bred; only by a little detective work at laying-time (involving much patience in cold weather) was I able to discover that egg-eating was to blame. Hence this note of warning.

The Mustard Egg.—If the nests are darkened and well furnished with nesting material and shell is supplied *ad lib.*, egg-eating should not be met with. As a cure for this vice the mustard egg will often prove reliable. An eggshell should be blown of its contents and a liquid preparation of mustard and pepper substituted. Several of these special eggs should be left in the nests, and in most cases the hen that samples one will not attempt to touch another egg. Hens vary very much in temperament, and I have known some to have highly appreciated hot mustard eggs. Perseverance is necessary, although if only one hen is to blame and she cannot be reformed, it is best to dispose of the bird. Special nests can be purchased where the eggs, after being laid, drop through a hole in the bottom, thereby passing out of sight and preventing egg-eating, and they are very reliable. One thing I would add, namely: Collect the eggs as often as possible.

Controlling the Layers.—Hens that are allowed free range throughout the winter months will never give the best egg returns. Layers require ample protection from both cold and wet weather; and while total confinement is not recommended, it is very advisable to allow the birds out only on fine days. Such a restriction, however, is only possible where scratching sheds are adopted or where combined roosting and scratching houses of the intensive type are in use. It would be folly to confine the laying stock during the day-time in houses large enough only for, or constructed solely for, sleeping purposes. To such structures a roomy scratching shed must be attached, or an intensive house must be installed in its place. While the layers are confined they need exercise, and if suitable occupation is not provided they will not be happy with their lot. It is the happiest hen that makes the best layer. If, too, the hen is wet overhead or underfoot, she will not give the best egg yield. She is a very sensitive little creature. Roomy and well-lighted structures are necessary.

Scratching Exercise.—If you are dissatisfied with your egg returns for the past few months, erect a comfortable scratching shed wherein your birds can take exercise and be confined in inclement weather, and note the subsequent increase in egg-production. Scratching exercise *ad lib.* is essential for all laying stock. It helps to circulate the blood and to maintain the hen's bodily warmth, while at the same time the bird is kept busily occupied. The best layers, it must be remembered, are the busy-bodied birds, and it must also be borne in mind that it is cheaper to provide the hen with the necessary fuel by scratching exercise than by extra food of a heat-producing nature. A good depth of litter should be placed on the floor, and all grain given should be raked into it, so that the birds have to scratch for the last seed. Scratching sheds should face the south, and free admittance should be given to the sun's rays, even by means of glass panels in the roof if such are necessary. The rain must be prevented from beating in, and a glass hood fixed at the top of the front is recommended. Such an arrangement will keep out the rain but admit the sun, and it will serve the desirable purpose of keeping the litter and flooring dry.

PRACTICAL POULTRY POINTERS

FEEDING

ways feed for the object in mind—whether eggs, flesh or chickens.

* * *

good sample of grain or meal will ensure better results than an inferior one.

EGGS

in-shelled eggs lessen the poultry-keeper's profits; they are useless for either marketing or incubating.

* * *

all eggs are invariably laid by over-fat hens.

HOUSING

ch fowl requires from 10 to 12 cubic feet of *air space* in a house used exclusively for roosting.

* * *

intensive houses each bird needs about 4 square feet of *ground space*.

ADVICE ON POULTRY MATTERS

Mr. W. Powell-Owen, THE GARDEN *ultry Expert, will be pleased to answer, free charge, any questions dealing with poultry-ping. A stamped and addressed envelope uld be enclosed, when a lengthy and detailed ly will be posted promptly. Communications uld be sent to Mr. W. Powell-Owen, care of E GARDEN, 20, Tavistock Street, Strand, W.C.*

INTENSIVE POULTRY KEEPING

Readers requiring EGGS for their household *and for Hospitals* should write for details of our unique system, which thousands have proved a success. We supply the complete "Beginner's Ideal Intensive Outfit" carriage paid.

Do not miss asking for our Booklet on this important subject, which affects all requiring eggs for home consumption.

In addition to being the originators of the above (introduced by us at the *Daily Mail* Ideal Home Exhibition in 1913), we are the

LARGEST BREEDERS
of reliable Poultry in England, and
HEADQUARTERS
for supplying every requirement in the Poultry World.

BREEDING PENS, PEDIGREE LAYING STRAINS IN COCKERELS AND PULLETS.

Several hundred Birds still for disposal, write us your actual requirements.

EGGS FOR SITTING, DAY-OLD CHICKS, NOW READY.

Satisfaction guaranteed in every transaction, with personal attention.

Send for our 16-page Booklet, free to all Readers of "The Garden."

N.B.—Please write to **Orpington,** where all correspondence is now conducted. 'Phone—CRAY **39.**

WILLIAM H. COOK, Ltd.
ORPINGTON, Kent
Branch Farm—LE TOUQUET, FRANCE.

SPRATT'S CHICKEN AND POULTRY FOODS.

Write for "Chicken Culture," post free.

HEARSON POINT No ONE

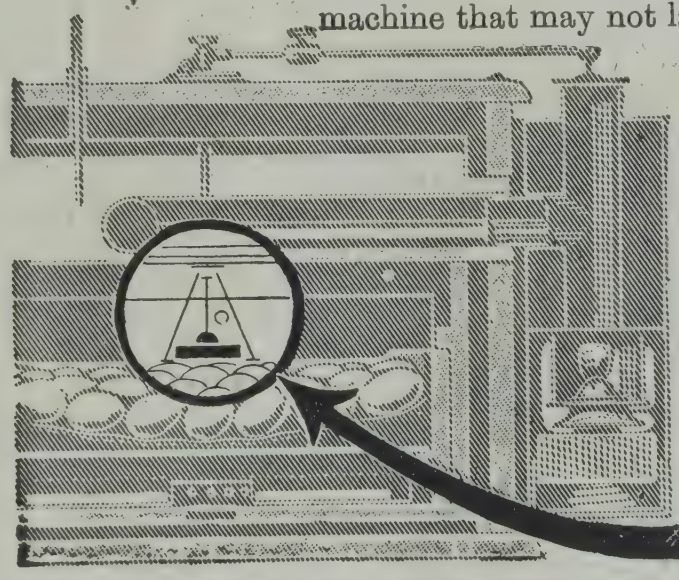
To those who are unacquainted with this marvellous capsule

we would explain that it is a wonderful little scientific apparatus—the original invention of Mr. Hearson—which, in spite of the most extreme variations of heat and cold *outside* the incubator, will automatically keep the hatching chamber *inside* at a uniform temperature—with such precision that it is guaranteed not to vary more than 3 degrees in 12 months of constant use.

HEARSON'S Incubator

—the Incubator that hatches EVERY fertile egg.

The HEARSON Incubator will last 20—30 years, and is therefore more ECONOMICAL to buy than a cheaper machine that may not last a quarter of the time.



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1000 EGGS

R. TOOPE & CO.,

The only MAMMOTH Incubator built in this country, and the only Heated-by-Moist-Air Incubator ever invented is the

ASBESTIC HEN INCUBATOR

Patented and Manufactured with BEST British Material by

Stepney Square, LONDON, E.

There are different sizes—i.e., for 25, 40, 60, 100, 200, 500 and 1,000 Chicks, and upwards. SEND OFF THE FREE COUPON BELOW for particulars. Also for TOOPE'S

IDEAL CHICKEN BROODER

Equally successful for Indoor or Outdoor Chicken Raising. The BEST and Most Profitable Brooder on the market, and the SURE Spring Money-maker for Poultrymen. SEND OFF THE FREE COUPON BELOW for particulars. Also for TOOPE'S

CORONATION GRAIN SPROUTER

Produces Oak Sprouting and other Green Food in the quickest, the simplest, the cheapest, and the most satisfactory way. A necessity for the up-to-date Egg-producer, and a sure preventive of poultry disease. **Send for particulars.** Also for TOOPE'S

KING'S POULTRY HOUSE and QUEBEC POULTRY HOUSE

Made of BEST class matching of latest design and scientific construction. Every House has attendant's door, strong hinges, and lock and key. A new type—a semi-open air House; can be closed in severe weather, and is well-lighted when closed.

IMPORTANT

Above are briefly listed four of our BEST

Poultry Helps for Poultry Profits.

It will pay you to send off this Free Coupon. "It's a dear policy to save on your tools."

FREE COUPON.—Messrs. R. Toope & Co.,
6d Stepney Square London, E

Please send me full particulars, with prices, of your BEST Poultry Appliances, as advertised in this week's Poultry Journals.

Name.....Address.....

(*Send this Form or a Postcard*) .....

HOW TO MANAGE A BROODY HEN

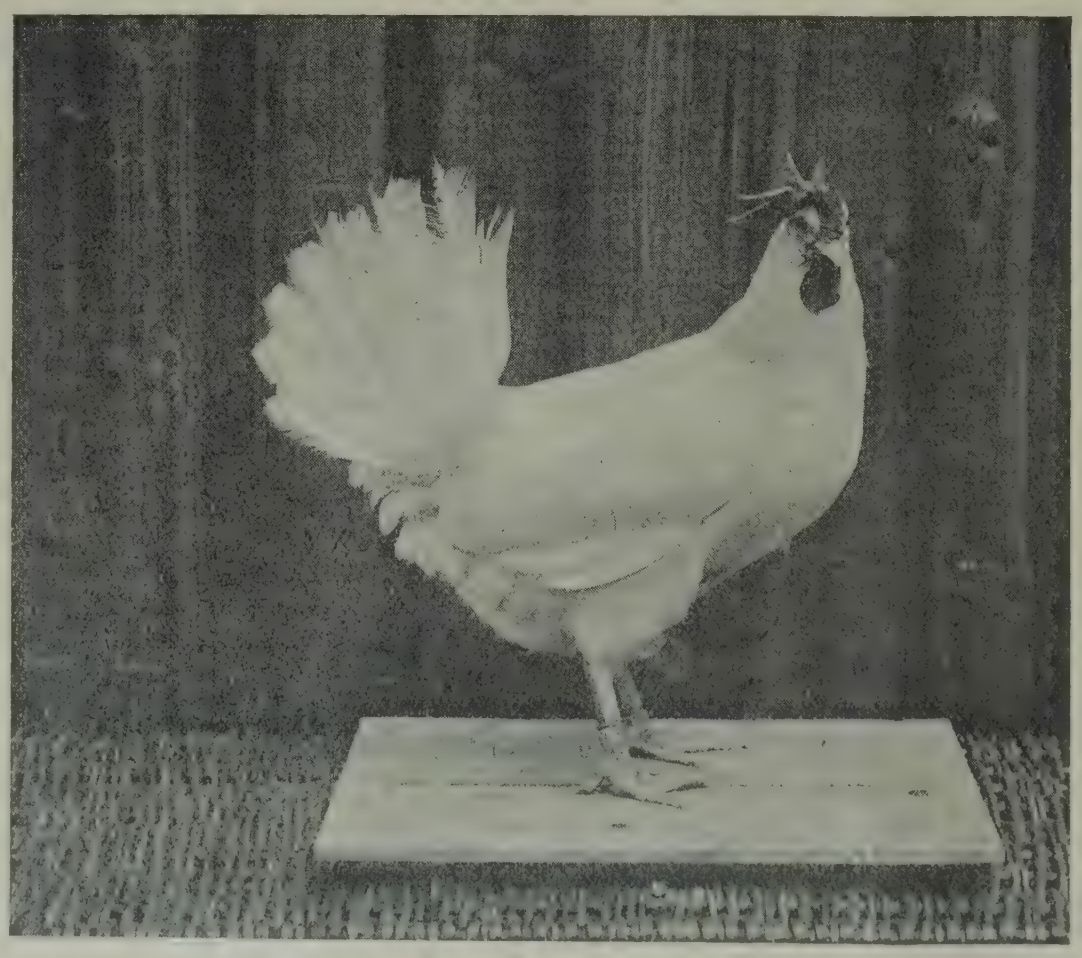
FOR those who desire to hatch out a goodly number of chickens an incubator is strongly to be recommended, since artificial incubation means a great saving of time and labour. Natural hatching will be necessary where only a few chicks are desired.

The First Precaution.—The first essential is that the hen selected be really broody. When broodiness—a kind of fever—comes on, the hen's blood becomes heated, and it is not till the fever has fully established itself that the broody hen should be entrusted with the eggs. A good test is to place the open hand under the bird with the tips of the fingers uppermost. Should the hen shuffle her wings and hug the fingers, she is ready for the eggs. Nervous and excitable hens should be avoided, as also should clumsy ones, since they do not make the best of broodies. Select quiet, businesslike hens which are light on the feet, and ones that possess ample fluff—to keep the eggs warm—on the thighs and under the tail.

Broodies to Avoid.—The feathers on feather-legged hens should be cut off, although, personally, I do not recommend the use of such birds. Feather-legged birds are invariably clumsy, and unless the feathers on the legs are clipped they will be the means of dragging eggs from the nest and subsequent breakages. Hatching places a strain on a bird's constitution, and I would on no account recommend for broody purposes a hen that was in a thin or poor condition. Nor would I use any bird which had scaly legs, because this ailment would in most cases be handed on to the young chicks. Broodies vary very much in temperament, but the owner is in most cases to blame for bad hatching results. Failures are usually accounted for by entrusting eggs to the hen before she is properly broody; giving the broody too many eggs to care for; allowing the hen off too long at feeding-time, or allowing insects to attack the broody while she is sitting.

Controlling the Broody.—The best results will accrue where the hen is perfectly controlled. Many poultry-keepers set their broodies on the floor in outhouses, &c., allowing the birds to come off and go on how and when they please. Such free agency has its drawbacks. A hen that is not controlled is just as likely to stroll from the nest of eggs in the night and be unable to find her way back till light of day. The eggs would thus be spoilt, and the owner would wonder why, seeing that the bird was such a steady sitter. Any fright, such as a heavy clap of thunder or the noise created by a cat running over the roof of the outhouse, would cause a broody to leave her nest. Where the broody hen is kept confined to the sitting-box throughout the hatch, the owner can take her off to feed regularly each day and return her to the nest when he considers she has been off long enough. Some hens will not show a desire to leave the eggs, which is not good for the latter, as they require sufficient airing. Where such birds are controlled, they are taken off daily, and both they and the eggs benefit.

Hatching-Boxes.—Most appliance firms make hatching-boxes, although anyone handy with hammer and nails can fit up sitting receptacles from an ordinary grocer's box. One measuring 18 inches or so square will do nicely. First remove the lid and then place the box on its side. Saw off 4 inches of the lid, and nail this piece of wood across the bottom of the open front to keep in the nesting material. The remainder of the lid should be used as a drop-down door for the sitting-box. Hinge it at the top, and use a small wooden screw-button as the fastening at the bottom. The button will be fixed on the 4-inch piece of wood that runs across the bottom of the front. A few ventilation holes should be bored—by means of brace and bit or red-hot poker—in the door (at the top) and high up in the back. An orange-box makes a serviceable two or three compartment sitting-box, and can be placed either on its side or with the openings uppermost. In the former case, hinged doors will have to be fixed, also bottom boards to keep in the nesting material. In the latter instance, a stoutish board can be placed over the top for the entire length of the sitting-boxes (or separate boards for each compartment), and several heavy stones can be put thereon to keep it down. Where such a type of sitting-box is used, the broody hens can be perfectly controlled and cannot leave the eggs until the operator removes the birds.



WHITE LEGHORN.

Laid 277 eggs in the Sedlescombe Twelve Months' Laying Contest, 275 of which scaled 2oz. and over each. The property of Mr. G. B. Metcalfe, Claydon Farm, Lechlade.

HOW TO WORK AN INCUBATOR

THE working of an incubator is by no means as difficult as most novices imagine. There is much truth in the saying that "a good incubator works itself," and there is no excuse for the operator going wrong if he follows in detail the pamphlet of instructions supplied gratis with each machine sold.

Must Stand Level.—In the first place the incubator must stand perfectly level, so that the use of a spirit-level will be essential before the machine is started. The temperature registered inside the incubator during the hatch should be about 103°, allowing 104° as a possible and avoiding 105°. Should the temperature at any time take a heavy drop, do not be downhearted, but get the temperature up as quickly as possible and hope for the best. Run the incubator at 101° for a day or so before putting in the eggs, since, directly the latter get thoroughly warmed through, the desired 103° will be registered.

Adding the Eggs.—It is never wise to overfill the egg drawer or to add fresh eggs once the machine has been started. After the incubator has been running for thirty-six hours, the turning of the eggs must be commenced. To perform this operation, take out the eggs forming the centre row and roll the eggs in the lower half of the drawer towards the centre, replacing those that were in the centre outside. Repeat the process with the eggs in the other half of the drawer. If the eggs are turned twice daily they will get sufficient cooling or airing. If during the turning process the egg drawer is removed, close up the incubator to keep up the temperature within.

Turning and Cooling.—As regards the length of time for cooling and turning, start with five minutes and then be guided by outer elements and the "touch" of the eggs. It is during the early period of incubation that one must be very careful, since the eggs are then turning into live or dead embryonic chicks. The turning of the eggs is necessary to prevent the contents from sticking to the shells. Turning, however, should cease after the eighteenth day of incubation, although cooling should be continued until the first egg "pips." Test the eggs for fertility on both the seventh and fourteenth day, removing all that are infertile or addled.

Arrival of Chicks.—The chicks should arrive on the twenty-first day, but do not worry if hatching is late. Such would happen were the eggs stale when placed in the incubator or if the temperature in the machine dropped during the hatching period. Use only the best oil, and trim the wick and fill the lamp every morning. After the hatch, well clean out and disinfect the machine, again running it steadily at 101° before the next eggs are put in.

FOOD PRODUCTION

The production of food at home has been a subject to which the attention of all householders has been forcibly attracted during the past year or so, and in the majority of cases it has been found that it is more sensible to keep fowls than any other class of stock, because—PROPERLY MANAGED—there is a regular supply of eggs from the pullets and hens, while the cockerels provide meat at a lower price (for rearing) and in a more agreeable form than that obtainable from the butchers.

A great many people have purchased a few fowls with the object of producing eggs for their households and of rearing a few broods for home consumption, and the entire absence of eggs during the Autumn and Winter has been a great disappointment—as well as loss—to them; and as they have not known that their management of the birds was at fault, there are few prospects of an improvement until the period when eggs are of the greatest value has passed, unless it is explained to them that egg production is only possible where the food provided for the birds is of the right kind to develop the eggs which nature has endowed them with.

The majority of foods sold for poultry feeding are starchy and fattening and consequently retard egg production rather than develop it.

The oldest poultry farmers in this country,

WILLIAM COOK & SONS,

Originators of all the Orpington Fowls and Ducks, who daily feed over 6,000 head of stock, discovered a few years ago that all foods of a starchy kind were a menace to the constitutions of fowls and prevented egg production, and they supply the food they use themselves to poultry keepers, viz.:—

THE IDEAL MEAL

WHICH PRODUCES EGGS IN SATISFACTORY NUMBERS at a LOW COST AND PROMOTES HEALTHINESS.

This food is different to all others on the market as it is non-starchy and non-fattening, but produces eggs in abundance and promotes rosy healthiness in the fowls fed on it. It is now made in two forms:—

(1) **THE ORIGINAL IDEAL** which is used in the proportion of one part to several of middlings; and

(2) **THE COMPLETE IDEAL** which requires no addition whatever, and should be ordered as described.

These are the protein foods which make eggs. Hundreds of letters are being received every week from satisfied poultry-keepers who are really getting eggs. The price of the Ideal Meal in both forms is: Per cwt., **21/-**; per half-cwt., **11/-**; per quarter-cwt., **6/-**; carriage paid in England and Wales; and 1/- per cwt. less than these prices for Scotland, Ireland, and the Channel Isles, carriage forward.

For a few fowls a 6/- bag, or for twenty or more one at 11/-, will prove the value of this food.

Everyone who has fowls which are not laying should in their own interests—try a bag of Ideal Meal without delay, then they will be able to see that they have not before bought THE RIGHT FOOD, although they have paid a good price for it.

Those who are not getting eggs from their fowls would do well to read the following (*hundreds are received weekly*):—

Delamere, Seacroft, Skegness,
February 2nd, 1917.

I find your Ideal Meal excellent. My twenty fowls were in full lay until November; they quickly got over a late moult, and were all in lay again two weeks before Christmas and have continued regularly until the present time. In other years I have had no eggs from my hens until the middle of February.—W. ALDERMAN.

Ruskin Road, Belvedere, Kent.
February 2nd, 1917.

Please send me another bag of your Complete Ideal Meal. The white Orpingtons I had from you (in eggs) have turned out most satisfactory. The pullets are now laying six eggs each per week in spite of the weather, but fed on your meal.—L. S. LAURIE.

Three penny stamps will secure their advice on (1) Artificial Hatching, (2) Rearing, (3) Feeding, (4) Fattening, and (5) Good Production. No poultry-keepers should miss sending three stamps for this publication.

SPECIAL NOTICE.—Readers of THE GARDEN should mention this paper when sending for their publications to their ONE ADDRESS IN ENGLAND:—

WILLIAM COOK & SONS,

WHOSE ONLY ADDRESS IS

ST. MARY CRAY, KENT.

Telephone—7 Cray.

HELPFUL LETTERS

I.—MAKING A START.

DEAR SIR,—I thank you for your letter of the 14th.

There are many ways of starting poultry-keeping, bearing in mind the fact that operations are to begin at this season of the year. You could, for instance, buy sittings of eggs and rear the chicks hatched therefrom to maturity. The pullets would be laying by next October, and would supply you with plenty of new-laid eggs throughout the winter and well into the following summer. Again, you could buy day-old chicks and rear them to maturity. If you purchased sittings of eggs you would, of course, have to entrust them to broody hens or an incubator to hatch them out; and were you to decide on artificial incubation, you would need a foster-mother. After leaving the broodies or foster-mothers at about eight weeks old, the chickens would be accommodated in small houses and be provided with suitable grass runs. They would be grouped into sizes and sexes, while the cockerels would later on be fattened for the table and the pullets run on for laying purposes. If you bought day-old chicks, you would place them with broody hens or in a foster-mother. Some breeders, I might mention, gladly supply mother hens with chicks very reasonably.

If you are a novice you might think you would be sure to have poor hatching results. In such a case I would, at the time of sending for the sittings, recommend you also to order from the same breeder a number of day-old chicks to be delivered near the date the sittings of eggs were due to hatch off. Then when the day-old chicks arrived you could place them with those brought off from the purchased eggs. If by chance you had bad luck with the latter, you would have the day-old chicks to rely upon and no time would be wasted.

Another plan would be for you to buy a mated pen of birds from a reliable breeder, asking him to mate the cockerel and six (or eight) hens especially to produce *laying* stock. Within a week or so of their arrival the hens should be laying fertile eggs, which you could entrust to broody hens or an incubator. You may, on the other hand, desire eggs for table use at once.

If I can help you further, please write me again.

Yours truly,

W. P.-O.

EGGS

G. B. METCALFE

Winner of FIRST PRIZE GOLD MEDALS in the English Laying Competitions

WITH

WHITE WYANDOTTES AND WHITE LEGHORNS.

Now booking eggs and chicks from his PEDIGREE LAYING STOCK.

List sent on receipt of a postcard.

Claydon Farm, LECHLADE.

AN OPEN LETTER TO POULTRY KEEPERS.

TWYFORD,
February, 1917.

DEAR SIR (OR MADAM),

Are you quite sure that you are getting from your birds all the eggs which you might? They should now be laying five eggs each per week, and if they are not you are not serving the nation's need to the extent which you might.

I am at the present time feeding many thousands of birds at the Model Farms, Twyford, which were established as an experimental and educational station. If you would care to come down and view the Farms I shall be delighted to see you, and should you be in any difficulty with your birds I will try to give you help.

I have tried many methods of feeding at Twyford, and have found that Molassine Laying Meal is undoubtedly the best food for egg production. Try the following ration for your birds:—

Give each bird not more than 4 ozs. of food daily, including corn. In the morning give 2½ ozs. wet mash. This wet mash should be made of Molassine Laying Meal, scalded in the usual way and dried off with middlings. Scald one pound of Laying Meal with one pint of water, and allow fifteen minutes to soak. Dry off with ¾ lb. middlings. In the evening give 1½ ozs. per bird of oats—wheat and cracked maize preferably—on alternate nights. Do not give mixed corn, as some of the birds will pick up the best, and others will have to be satisfied with what is left.

If you are feeding on the dry mash system, mix two parts of Molassine Laying Meal (by measure) with one part of bran.

Molassine Laying Meal can be obtained from all the leading corn dealers, at 25/- per cwt. or 1/9½ per 7 lb. bag.

Remember that each bird should get ten cubic feet of roosting accommodation and four square feet of scratching space. Your house should, if possible, face south, so that the birds get the benefit of whatever sun there is.

Do not overfeed your birds or they will get too fat and will not produce eggs. Unless a pullet produces 150 eggs in her first year, she is not worth keeping and should be killed off. You should easily get 3,000 eggs a year from twenty birds, and it should not cost you, even to-day when prices of foods are so high, more than 3½d. to 4d. per week to feed each bird.

I have a flock of 95 White Wyandottes which averaged 189 eggs each in the twelve months, all fed on Molassine Laying Meal. One bird laid 280 eggs and another 275. I also have a pen of eight which averaged 234 eggs each.

Give the birds plenty of green stuff. Cabbage leaves should be put into a net work bag and hung about a foot from the ground, so that the birds have a peck at it and thus get exercise. Swedes, turnips and mangles are also useful green foods. Never feed frosted leaves.

White Wyandottes, Leghorns and Rhode Island Reds are the best breeds for egg production on the intensive or semi-intensive system. First crosses of these breeds are also good.

Where the birds have a free range, I would recommend Orpingtons, Langshans or Faverolles. By keeping birds semi-intensively, I mean they are kept in the intensive house during bad weather, and when the weather is fine are allowed to run free.

Do not worry your neighbours by keeping a crowing bird to run with the hens, for they will lay just as well, and the eggs will keep better if not fertile.

See the birds have plenty of water before them.

The Molassine Co., Ltd., Greenwich, issue a very useful little booklet, "How to Get More Eggs," which they will be pleased to send to any *bona-fide* poultry-keeper on receipt of 2d. stamps to cover postage, etc.

Wishing you every success,

Yours truly,
P. L. STANLEY.
(Manager of the Model Poultry Farms.)

EIGHT BELLS! AND ALL'S WELL, FOR OUR GALLANT TARS USE

LIFEBUOY SOAP.

"SONS OF THE SEA," they love to feel the moisture-laden west wind upon their tanned cheeks. Its suggestion of unbounded freedom is as the breath of life to them.

For this reason they appreciate the fresh, cleansing lather and the healthy odour of Lifebuoy Soap. After a long watch, nothing invigorates Jack so much as a splash with Lifebuoy Soap, and he appears on duty again cheery and alert, and spick and span as the men of the navy always are.

Lifebuoy Soap is more than soap, yet costs no more. Wash face and hands with it—bathe with it —shampoo with it.

A ROYAL DISINFECTANT.

LEVER BROTHERS LIMITED, PORT SUNLIGHT.

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INCREASED VEGETABLE PRODUCTION

THE GARDEN

A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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EBBS' HIGH-CLASS VEGETABLES.—warded GOLD MEDALS (Premier Honours) by the Royal Horticultural and Royal Agricultural Societies in 1916.

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EBBS' Pioneer PEA (early), 1s. 9d. pint.
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EBBS' Emperor TOMATO, 1s. per pkt. FREE.
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lustrated Catalogue of Seeds, Fertilisers, etc., free on request.
EBB & SONS, LTD., The King's Seedsmen, STOURBRIDGE.

IERRYWEATHERS' ROSES have a world-ide reputation for quality and cheapness. Strong and urdy always, Merryweather trees, ever true to name, defy ompetition. All the newest varieties. Dwarfs, Standards, limbers. A grand stock of Shrubs and Ornamental Trees. erbaceous Plants in great variety. Send for Catalogue.—. MERRYWEATHER & SONS, LTD., Southwell, Notts.

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REENHOUSE PAINTING & GLAZING.—VITROLITE" far superior to White Lead Paint, 15/- per all. "PLASTINE" supersedes Putty, 18/- per cwt.—Full articulars from W. CARSON & SONS, Grove Works, Battersea. gents throughout the country.

BUNYARD'S IRIS COLLECTION.—A special escriptive list of over 134 species and varieties will be sent ree on application.—GEORGE BUNYARD & CO., LTD., The oyal Nurseries, Maidstone.

EWAGE DISPOSAL FOR COUNTRY OUSES.—No emptying of cesspools; no solids; no open lters; perfectly automatic; everything underground. State articulars.—WILLIAM BEATTIE, 8, Lower Grosvenor Place, Vestminster.

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GARDEN NETS.—Best salmon twine, -inch square mesh nets, bound with cords, guaranteed cover xact measurements, 4½d. sq. yard; stout 1-inch mesh, otton, 3d. sq. yard; ditto, medium, 2d. As supplied to Royal ardens over 30 years. Supply limited; order early.—W. OLIVER ALLEN, Garden Net Works, Porthleven, Cornwall. Established 100 years.

WAKELEY'S PATENTED HOP MANURE. The only reliable and complete substitute for Stable Manure. See advert. on page viii.

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THE HON. MRS. R. C. GROSVENOR, Practical Artist-Gardener, Silver Medal, International Exhibition, 1912. Original designs for gardens of every description, stone terraces, paving, etc. Materials and plants supplied. Work personally superintended. Estimates given.—Morrisburne, Woking.

HARDY BORDER CARNATIONS, DIANTHUS OR PINKS, perpetual rockwork and border (Four Gold Medals R.H.S., 450 Cups, etc.). Our famous stocks can be planted now. Nothing equals a bed of Douglas clove-scented stiff-necked Border Carnations that bloom all the summer. Finest seed, 1/6 and 2/6 pkt. Plant catalogue.—J. DOUGLAS (The Premier House), Gt. Bookham.

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250,000 HARDY PERENNIALS, also Fruit Trees, Shrubs, Golden Privet, Roses, etc. Descriptive catalogues on application.—JONES, Churchfield, Cradley, Malvern.

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PRIMULA HELODOXA, A.M., R.H.S., 1916. Other New Chinese Primulas, etc. BERBERIS NEW CHINESE SPECIES. LILIES, GLADIOLI, BEGONIAS, are a few of the items offered and described in our SPRING CATALOGUE, post free on application.—R. WALLACE & Co., LTD., Kilnfield Gardens, Colchester, Essex.

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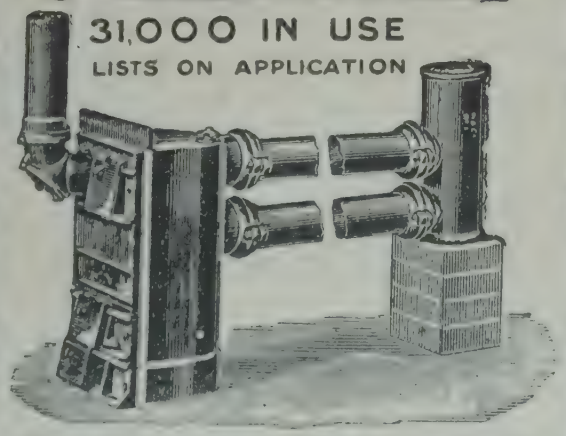

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TURNIP.	
MODEL WHITE STONE	3d.
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SUFFICIENT FOR AN AVERAGE VILLA GARDEN, CONTAINS:

BEANS, BROAD	½ pint	CABBAGE, Best of All	½ oz.	ONION	½ oz.
BEANS, KIDNEY	¼ ,,	CARROT, Scarlet Inter.	½ ,,	PARSLEY	½ ,,
PEAS, Early (Gradus)	½ ,,	CELERY	½ ,,	PARSNIP	½ ,,
PEAS, Maincrop	½ ,,	CRESS	1 ,,	RADISH	½ ,,
BEET, Pragnell's	½ oz.	LEEK, Musselburgh	¼ ,,	SPINACH	1 ,,
KALE dwarf curled	½ ,,	LETTUCE	½ ,,	TURNIP, White Stone	½ ,,

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THE GARDEN.

No. 2362.—Vol. LXXXI. February 24, 1917.

NOTES OF THE WEEK

THERE never has been a time in the history of our nation when the services of practical gardeners have been so greatly needed. In all parts of the British Isles gardeners are doing their level best in their own immediate surroundings, and they are ever ready to give helpful advice and to encourage local effort when occasion arises. On the other hand, there are far too many amateurs posing as authorities on gardening, and the waste in labour and seed, both so much needed, is simply appalling. If only a common-sense method of utilising the services of practical gardeners were adopted, much waste might still be obviated.

A "Peter Pan" Board of Agriculture.—A grave charge was laid at the feet of the Board of Agriculture at the recent annual meeting of the Royal Horticultural Society. It appears that in November last the Royal Horticultural Society, with a desire to utilise the services of gardeners, drafted a scheme for the cultivation of land under expert supervision. In answer to criticism of the society's alleged inactivity in this direction, Dr. Keeble explained that to carry out the scheme on a national scale, support from the Government appeared indispensable. The services of the society were placed at the disposal of the Board of Agriculture, and a deputation had waited on the Board and submitted an outline of the scheme which had been drawn up. The Board twice promised immediate replies, but months of valuable time have elapsed and no communication had been received. Words failed to express the feelings of the Fellows of the Royal Horticultural Society when these facts were laid before them. The seriousness of the delay leads us to think that the Board has fallen into a sound sleep, from which it will not awaken until it is too late.

The Need for Early Vegetables.—The most urgent need at the present time is to cultivate early vegetables to take the place of the diminishing supplies of Potatoes and winter greens. Warm south borders should be made up with light, rich soil and used for early Potatoes and early Peas, and a dead set should be made on those vegetables which grow speedily, like the Early Horn Carrot, small salads, Globe Beetroot, Parsnips, Onions, Broad Beans, Turnips and early Cabbages. It is from April to June that our vegetable supplies are likely to be at their lowest ebb, and no stone should be left unturned to make good the supply.

The Greenhouse Winter Sweet.—Among the number of plants now flowering in the No. 4 Greenhouse at Kew may be seen the old-time favourite Acokanthera spectabilis. It is not a success as a cut flower, but its pure white blossoms are deliciously fragrant on the growing plant, and for this reason it is known as the Greenhouse Winter Sweet. A native of South Africa, it requires an intermediate temperature, and forms a handsome evergreen shrub.

Dwarf Evergreen Shrubs for Shade.—The choice of suitable shrubs which thrive beneath trees being somewhat limited, any additions to this phase of gardening are worth recording. Recent experiments with several Sarcococcas amply justify recommending them for the purpose. They are dwarf shrubs botanically allied to the Buxus, but in general appearance rather suggest the Butcher's Broom. The flowers are white and fragrant, but not conspicuous It is in the free growth of the stems, which spring up freely from the base and are clothed with rich green foliage, that the beauty and value of the Sarcococcas lie. The plants can be freely propagated by division in spring, and cuttings root readily in a close frame during late summer. S. humilis, 1 foot to 1½ feet high; S. ruscifolia, 1½ feet to 2 feet high; and S. saligna, 2 feet to 2½ feet high, have all been introduced from China by Mr. E. H. Wilson during the last twenty years.

Helleborus Peter Barr.—This delightful Lenten Rose is a seedling from Helleborus colchicus, raised at Taplow. It has all the characteristics of H. colchicus in the rich coloration of the flower-stems and young foliage growths, which are also of purple hue; but the colouring of the flower is a deeper and richer hue of purple than that of the type, and the flower sepals are of a firmer texture and broader in the segments. Like the remainder of the family, it is semi-shade loving, and grows and flowers best where it is protected from cutting ground winds. Being winter flowering, it should be planted out of reach of the early morning sun.

Handbook on Pruning Roses. The National Rose Society in general and Mr. Courtney Page in particular are to be congratulated on the new edition of the "Handbook on Pruning Roses," which will shortly be posted to all members of the Society. This book contains an alphabetical list of Roses with instructions for pruning each variety under the various sections. Altogether it is a great improvement on the old pruning book; it is in reality a new edition of the society's Official Catalogue of Roses combined with a new edition of the "Handbook on Pruning Roses."

THE GREENHOUSE WINTER SWEET, ACOKANTHERA SPECTABILIS

*** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Flowers for Bees.—One of the best flowers for bees is Borage (Borago officinalis), a hardy herbaceous perennial or annual; also in hot weather useful for flavouring claret cup and other drinks.—S. P. G.

—— May I suggest, if it is desired to promote the hum of the busy bee until the sound is like the small waves on a gently moving seashore, sow a border of Buckwheat. A few other good things are Dandelion, Borage, Linum, Myosotis, Lobelia, Virginian Stock and Asters. "Anne Amateur" will find that garden flowers do not yield much honey. They are not worth the trouble, but when one is charmed by the music of the unique serenaders it makes all the difference in the world.—GEORGE STOCKS.

Lycoris aurea.—If the Rev. Joseph Jacob will turn to THE GARDEN for January 19, 1895, page 42, he will find there an excellent coloured plate of Lycoris aurea, by H. G. Moon, together with a story of its behaviour in gardens here. The plate was made at Kew, where a large number of bulbs of the Lycoris were in flower in a greenhouse the previous autumn. They came from Hong Kong, with the following particulars: "I send you a box of Lycoris aurea, and I hope it will reach you all right. Is it not somewhat remarkable that these bulbs should remain dormant in the ground all the summer in such a climate as this, with a temperature of 85° in the shade and a rainfall of 100 inches in the year, heat and moisture sufficient, one would think, to start into growth the most hide-bound of bulbs? The Lycoris, however, sleeps through it all, pushing up its tall scapes of yellow flowers at the end of our summer. Here it is one of the most popular of garden plants, ranking with Crinums, Pancratiums, Eucharis and Lilium longiflorum. I do not remember to have ever seen it in an English garden." The bulbs were as large as those of Emperor Daffodils, and they developed scapes 8 inches long with up to a dozen big orange yellow flowers, in form and arrangement like Nerine Bowdeni, but nearly as large again. The next year only a few of the bulbs flowered, and I have never seen anything like a decent show of them since, although we have tried both pot and border culture and stove and greenhouse conditions for them. Many years ago I tried to cross this and L. squamigera, the blue Amaryllis, with Nerines, and I believe the late Mr. Peter Barr tried also, but nothing came of the marriage. I have also tried L. radiata, a red-flowered species, with Nerines, and got nothing for my pains. I have never seen L. sanguinea in flower, although I have had healthy bulbs of it, and so has Mr. Wallace. The genus is worth another effort, and I daresay the Japanese nurserymen are able to supply bulbs of all five species that are known; or perhaps they will try crossing the species with each other and with Nerines.—W. W.

An Ever-Blooming Geum.—It is not possible to give the plant a definite name. It has been submitted to botanical authority, and the answer is that they cannot make anything of it but Geum montanum. But G. montanum has single flowers on stems 6 inches to 8 inches high, and the plant certainly answers to this with regard to all the bloom it produces from October to April; but all the summer the flowers are on widely branched stems nearly 2 feet high. It is of interest in the garden not only from its good, persistent foliage, but because on a well-established clump there is no day in the year when one cannot find a flower. Perhaps the present is the unlikeliest time for finding flowers on a summer-blooming plant, and yet there they are—not many, it is true, but always enough to keep up this character. The leaves are twice the size in summer, and always have a clean, polished appearance. I do not know if the plant is in other gardens, but I had it many years ago from that good old nursery, Osborne's at Fulham, a name only to the present generation and a distant memory to older folk. The plant is best in spring, when the large, Buttercup flowers, as wide again as these poor winter specimens and of a splendid deep yellow colour, are on short stalks and are closely associated with the handsome foliage.—G. JEKYLL. [We sent the flowers of this charming Geum to Mr. Irving at Kew, and he is of the opinion that it is a hybrid between G. montanum and G. chiloense. It closely resembles the plant grown in some gardens as G. montanum var. grandiflorum, as far as can be judged by its winter flowers.—ED.]

THE HARDY AND PROLIFIC EARLY PEA EDWIN BECKETT.

Potato Epicure.—My experience of the growing of Potatoes for market and home consumption has two aspects for consideration. For my own use I would not cultivate any variety after the first trial that does not boil and bake mealy. Some would say they must be white and mealy. While preferring them in the latter condition, I do not ban a variety the flesh of which is slightly yellow in colour if it is mealy. Close, "soapy" tubers I cannot tolerate. My experience of several of the newer varieties will, when sufficient stock is obtained, render the growing of these objectionable sorts unnecessary for private consumption, as the newer sorts promise so favourably from a cooking point of view. Now for the market side of the subject. There are certain varieties of Potatoes immensely popular on the market, notably Epicure, Evergood and King Edward, which do not come up to my ideal in their cooking qualities, but they must be favoured by many, or they would not command the prices they do. Therefore it is mainly a question of individual taste. All the varieties noted have firm flesh, and it may be for this reason, being so suitable for restaurant use, they are popular.—E. M.

Pea Edwin Beckett.—This is unquestionably one of the finest early Peas yet introduced. It received both an award of merit and a first-class certificate from the Royal Horticultural Society. It was raised at Aldenham, being the result of a cross between Early Morn and Duke of Albany. It is extremely hardy, very prolific, and considered to be one of the finest-flavoured Peas in existence. When treated in the same way it is only a few days later than the inferior-flavoured, round-seeded varieties. On good ground it grows to a height of from 3 feet to 4 feet, and should be sown or planted thinly.—E. B.

Costly Daffodils in a New Zealand Garden.—I enclose a cutting from the *New Zealand Herald* of December 20, 1916, briefly reporting a case brought in our local Magistrate's Court, in which the circumstances were rather unusual, and as it was of interest to gardeners here, it will probably interest your readers: "A claim for £6 made by H. E. Sharp, Daffodil expert, Oratia, against Herbert Ingram, Auckland, was heard in the Magistrate's Court yesterday before Mr. C. C. Kettle, S.M. In his statement plaintiff said as a result of labour and experience he had a large bed of valuable Daffodil bulbs growing on his property, one of which alone cost him £7 10s. to import. Defendant had entered his grounds, cut the blooms and converted them to his own use. As a result the plants had suffered damage,

and it was impossible to obtain any seedlings from the bulbs this year. He claimed £6 as compensation. Defendant admitted taking the flowers and said he had endeavoured to find plaintiff at the time, but without success. He left 6d. in an envelope to show his *bona fides* in the matter. Mr. Kettle gave judgment for plaintiff for £6 and costs." Towards the end of September, with another Daffodil-grower, I visited Mr. Sharp, who lives at Oratia, some thirteen or fourteen miles from Auckland, and found him very upset over the loss of a large number of his best Daffodil blooms, mostly crossed for seed. A person with a very good taste in Daffodils (but a poor idea of the rights of property) entered his nursery and orchard grounds, selected the cream of his exhibition blooms (ignoring a large bed of blooms for the cut-flower business close by), and left 6d. in an envelope as compensation! As the offender seemed unwilling or incapable of recognising the seriousness of his offence, Mr. Sharp felt compelled to take legal proceedings to impress the matter, and the above cutting gives the result. I hope shortly to send you a few notes on the past Daffodil season and the vagaries of the weather, which has been very abnormal and detrimentally affected most gardening operations.—A. E. GRINDROD, *Auckland, New Zealand.*

Flavour in Apples—and Literature.—If Cox's Orange Pippin is king of dessert Apples, then William Crump is the heir-apparent. I know not which excels, the sire or the son. For flavour in orchard fruit give me these, and for flavour in literature commend me to Mr. A. H. Pearson's contributions to THE GARDEN. His concise, lucid and interesting style of conveying instruction makes one wish for more, and if he could be persuaded to write a practical book on fruit culture he would supply a real want and impose a debt of gratitude on the many amateurs who now wish to grow their own fruit.—E. [Apple William Crump is an excellent variety, the result of a cross between Worcester Pearmain and Cox's Orange Pippin. It received an award of merit from the fruit and vegetable committee when shown before it on December 22, 1908, and at that time the flavour was very good indeed, the yellow flesh being quite firm and crisp. It was raised on the Madresfield Court Estate, and promises to become one of the leading dessert varieties of the future. When shown before the committee on January 11, 1910, it received the higher award of a first-class certificate. It was shown by Mr. William Crump, V.M.H., Madresfield Court Gardens, Malvern.—ED.]

Two Original Recipes for Jerusalem Artichokes.—I have had so many enquiries about the Jerusalem Artichoke scallops that I have written out the recipe from Mrs. "Busy Bee's" description. (She invented the scallops one day as a little surprise for me.) Here it is: "Mock Scallops of Jerusalem Artichoke.—Grease the scallop shells or moulds, sprinkle with grated breadcrumbs, partly fill the shells with slightly *under*-boiled flakes of Artichoke. Rub some *well*-cooked Artichokes through a wire sieve and add melted—ahem! I *mean*—margarine mixed with anchovy sauce and a little chopped Parsley. Add for ornament a little rounded piece of cooked Carrot, dipped in vinegar. Brush over all lightly with a little milk or the stock the Artichokes were boiled in, and cover with grated breadcrumbs. Bake in a hot oven about fifteen to twenty minutes. Serve very hot. Mock Fish and Potato Pie can be made with Jerusalem Artichokes slightly under-boiled and mixed with a sauce of butter or margarine and flour, finely chopped Capers (or Nasturtium pickled seeds), and well flavoured with anchovy sauce. If some peeled shrimps can be added, they will greatly improve the above pie." These recipes are, of course, intended for dwellers in the country, who, like myself, cannot get fresh fish easily.—ANNE AMATEUR.

Scentless Musk.—Your correspondent "C. C. F.," in your issue of January 27, suggests that the scent was located in the hairs with which the plants of thirty or forty years since were entirely covered. During a botanical ramble in the Breadalbane Mountains in the summer of 1915 I was more than surprised to find the Musk growing wild in a mountain stream in Glen Lyon. From its abundance it was evident that it must have been growing in its present position for some time. The plant in question had not lost any of its hairy nature. Still, I was surprised to find that the plant was entirely scentless. My idea is that in our moist climate we have not sufficient heat to elaborate the essential oils which go to make up the beautiful scent of the Musk. Mimulus moschatus (the common Musk) is a bog plant. Bog plants, as a rule, are not hairy, and yet we have a most beautiful bog plant growing in this country entirely covered with hairs, giving the plant quite a hoary appearance, namely, Hypericum eloides, a common enough plant on exposed boggy ground, covering acres on Pilmoor in North Yorkshire. What we want at present is to get seeds of Mimulus moschatus from its native habitat. In this way we should get back the beautiful scent of our once popular window plant.—W. H. STANSFIELD, *Brantwood, Kew, Southport.*

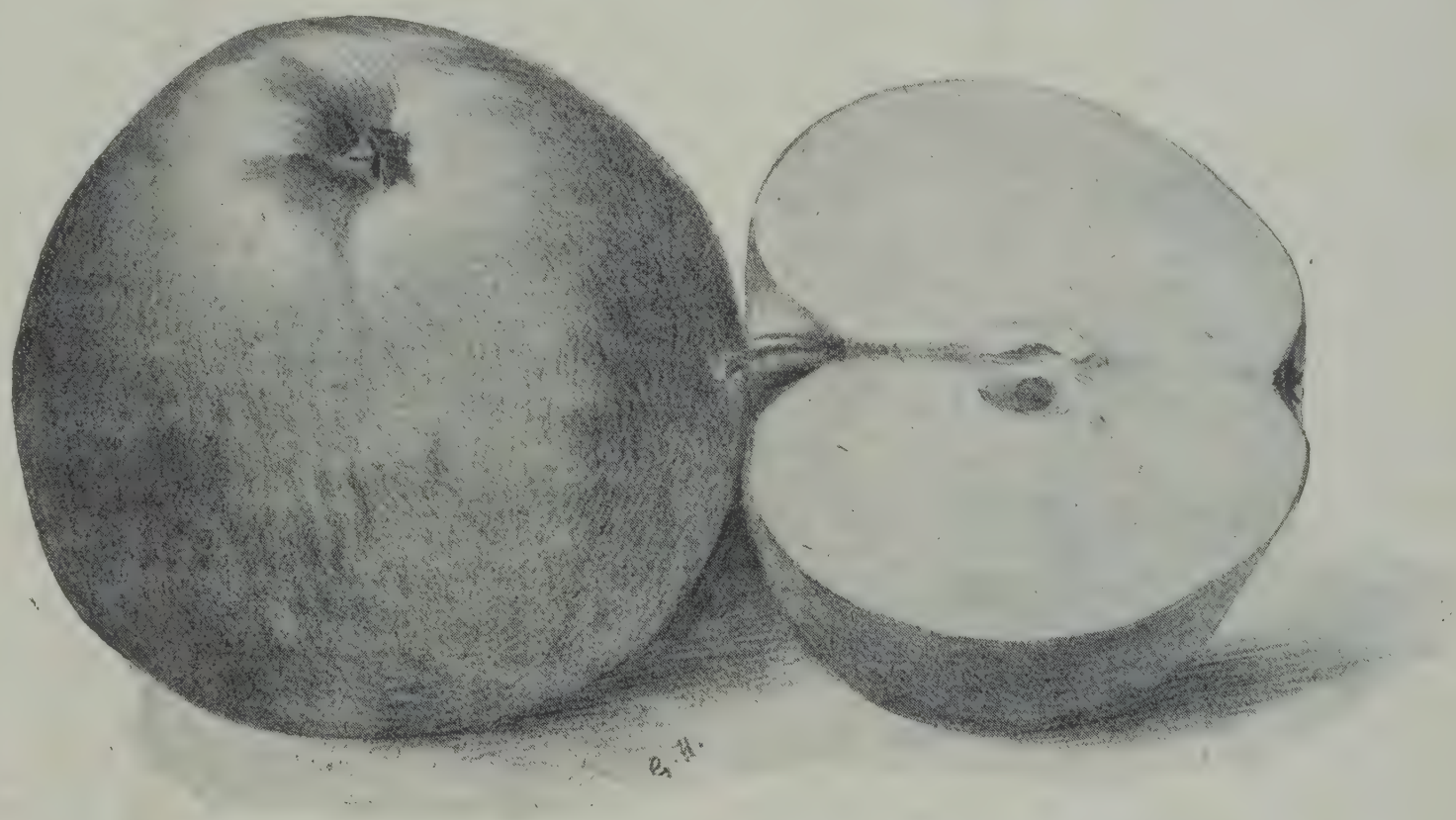
WINTER SPRAYING OF FRUIT TREES

By J. L. GIBSON.

IT behoves all who own even a few fruit trees in their gardens to make some effort to better the productive powers of these, thereby helping in the general work of increasing the home supply of food. Careless fruit culture is responsible for an almost incredible amount of waste through preventable disease and the equally preventable ravages of insect and fungoid pests.

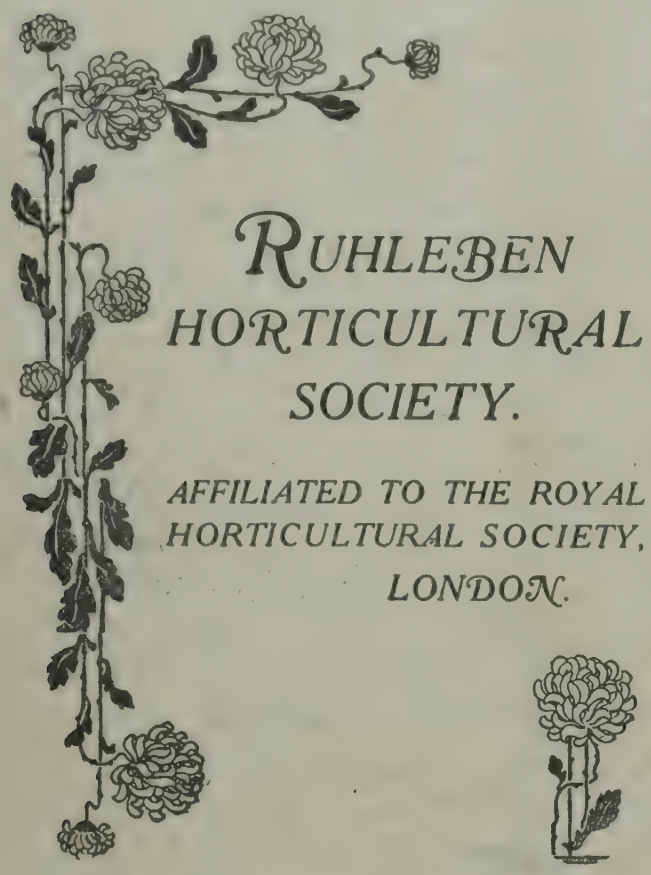
Winter spraying with a caustic wash is the first operation, and one of the most important, towards securing a full harvest of perfect fruit; and as February is the best time to apply this, I would like to draw attention to the good experimental work done by the Royal Horticultural Society in testing a large number of winter washes at the Wisley Gardens a couple of years ago. In all twenty different preparations were tried, five of which did their work well enough to earn high commendation from the society's experts. These are Jeyes' Winter Wash, Morlar Winter Wash, Liquid Gishurst Compound, Voss' Winter Wash, and ordinary caustic soda. The last named is the cheapest, and was used at a strength of 1lb. to 10 gallons of water; if anything, it is too drastic in action and is corrosive to certain parts of the spraying machine. Of the rest, Jeyes' Winter Wash seems to have a slight advantage over the others, considering all points. It is thoroughly soluble, non-corrosive, caustic to unprotected skin, but not dangerously so; cheap, and it effectively cleaned the trees, both old and young. Any of the preparations mentioned, however, can be used to good purpose, and no time ought to be lost by amateurs and large growers alike in getting this work in hand while the trees yet remain dormant.

If the active preparations for future destructive work on the part of fungus spores, insects and larvæ were clearly visible to the eye, no fruit-grower would ever think of letting this time pass without waging a relentless warfare against these



THE WELL FLAVOURED DESSERT APPLE WILLIAM CRUMP.

pests; yet winter spraying is still considered by many to be a fad or a finicky piece of fuss on the part of enthusiasts. It is nothing of the kind. It is a clear moral duty to one's neighbours as well as ourselves, for every neglected orchard is a constant and standing menace to every clean orchard. Think of the number of enemies that threaten the successful harvesting of your fruit. There are the lichen and moss on the trunk and branches, which harbour all sorts of hibernating moths of evil repute—the goat moth, the grey trident, the lackey moth, the winter moth and many others. Then there are the eggs of aphides, the Pear midge, the Apple sucker, &c.; the weevils and larvæ and scales of other vermin; the American blight or woolly aphis; the spores of canker and spot and bitter-pit. All these can be successfully neutralised by cleanly culture, of which winter spraying forms a primary part. Other sprays should be used later in the year, a note of which will be given in due time; but if the current work is done without delay, a great deal more interest will be given both to the hobby and the business of growing fruit, and because of winter spraying the subsequent work will be easier and less arduous.



RUHLEBEN HORTICULTURAL SOCIETY

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VICE-PRESIDENT:- Mr. M. Pritchard

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VICE-CHAIRMAN:- Mr. L. P. Roberts, Bar. 5, Loft B

HON. SECRETARY:- Mr. Thomas Howat, Bar. 5, Box 13

ASSISTANT SECRETARIES:- Messrs. W. M. Harris and W. E. Moll

HON. TRESAURER:- Mr. T. Howat

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MEMBER'S NAME:- Mr.....

Bar:-..... Box:-..... Loft:-.....

RULES AND STANDING ORDERS OF THE "RUHLEBEN HORTICULTURAL SOCIETY"

Title of the Society. That the Title of the Society be the "Ruhleben Horticultural Society".

Aims of the Society. That the aims of the Society be to further the knowledge of Horticulture and give members an opportunity of studying this subject by assisting in the laying out and attending to the flower beds in the Camp.

Membership. That the Society be open to all interested in Horticulture and That the Membership Subscription be M. 1,— per annum payable on entering. — Application for Membership to be made to the Hon. Sec. of the Society

Privileges of Membership. That Members be entitled to attend all lectures and papers arranged for by the Society and perusal of any literary matter should such be obtainable.

Officers and their Election. That the Officers of the Society consist of a President, Vice-President, Chairman, Vice-Chairman, Secretary and Treasurer, who are to be elected at a General Meeting of Members.

The Committee. That the business of the Society be conducted by a Committee of not less than eight and not more than twelve members (including the Vice-Chairman) these gentlemen to be elected at a General Meeting of Members. The period of office to terminate at the expiration of one year from date of appointment. The Hon. Sec. to have full power to vote and together with five members of the Committee shall form a quorum. The Chairman of the Meeting shall have power to vote and in addition have a casting vote. Nomination of Members to fill any vacancies which may occur during the year to be made at a General Meeting of Members. The Vice-President shall be an ex-offic. member of the Committee.

General Meeting. A General Meeting shall be held fortnightly when, if necessary, a short report of the work will be made to the members, followed by a paper on some Horticultural subject. All notices of Meetings etc. to be conveyed to members by means of a public notice-board, which notice shall be considered sufficient.

Finance. That the Committee be empowered to purchase bulbs, seeds, implements or any other accessories out of the Society's funds and to carry out all financial business connected with the Society. That the Accounts of the Society be audited by an Auditor, not a member of the Committee, who shall be elected at a General Meeting of the Society.

Alteration of Rules. Alterations, amendments or additions to the Rules shall be made at any General Meeting, should such alterations, amendments, or additions be found necessary.

Appendix.

The Committee meet every Thursday afternoon from 3 to 5 p. m. in Mr. Lazarus' Summer House behind Barrack 7 where members may apply for information. Members wishing to assist in gardening are asked to hand their names to Mr. Warner, Bar. 8, Room 2. Requests for work-parties will be posted on notice board, if possible, the day before going out.

THE MEMBERSHIP CARD OF THE RUHLEBEN HORTICULTURAL SOCIETY.

GARDENING AT RUHLEBEN PRISON CAMP

WAR has brought about many strange conditions, and it is a source of interest to learn that some British prisoners in Germany have the opportunity of turning their attention from the monotony of prison life to the pursuit of gardening. Readers will peruse with mingled feelings the membership card of the Ruhleben Horticultural Society reproduced on this page. It will be observed that this society is affiliated to the Royal Horticultural Society, and not the least interesting work the home society has done has been that of sending bulbs, plants and seeds to our fellow countrymen at Ruhleben. Mr. T. Howat, Bar. 5, Box 13, Hon. Secretary of the Ruhleben Horticultural Society, in a recent letter to the Rev. W. Wilks, says:

"I am in receipt of your letter announcing that the Ruhleben Horticultural Society is affiliated to the Royal Horticultural Society, London, which was laid before my committee. I am instructed to tender you their heartiest thanks for this kind assistance to the society's aims, and also for the six cases and one parcel containing bulbs and seeds which have been duly received. These have been already planted, and a very successful show is now assured. They also beg to acknowledge with many thanks the receipt of the six pamphlets on gardening subjects, and to inform you that a syllabus of lectures has already been commenced, with great success."

NEW AND RARE PLANTS

AWARDS OF MERIT.

Primula malacoides alba flore pleno.—A charming and useful addition to a species which has taken the popular taste by storm. The newcomer has pure white, semi-double flowers, sufficiently double to add to its decorative value and merit without robbing it of its beauty and elegant grace. Moreover, the flowers on the lower whorls remain good until those at the apex of the inflorescence expand; hence a good general effect results. Obviously a plant for everybody, amateur or professional. Exhibited by Messrs. W. and J. Brown, Stamford.

Freesia La France.—A welcome addition to a highly valued race of greenhouse flowering plants. It is said to be a seedling from the well-known F. Leichtlinii crossed with the pollen of a hybrid Dutch variety. The habit is vigorous and free, the exceptionally large flowers of a mauve-violet tone in sharp contrast with the nearly pure white colour of the tube. The colour named hardly does justice to the variety, the shade appealing at once as a considerable advance on anything in the same colour range that has yet appeared. From Mr. F. Herbert Chapman, Rye, Sussex.

Lælio - Cattleya Trident. — A distinct rather than a greatly attractive hybrid, whose outstanding feature is its velvety crimson lip with pale yellow tube. The long sepals are of pinkish white tone, the broad, ovately inclined petals being coloured reddish purple with a paler shade at the edges. From Messrs. Flory and Black, Slough.

The foregoing were before the Royal Horticultura, Society on February 13, when the awards were made.

THE SNOWDROP

GALANTHUS NIVALIS AND ITS VARIETIES.

WHILE the number of species of Galanthus now in cultivation is considerable, there is a general agreement among those who have grown them that none equals in general value the common Snowdrop, Galanthus nivalis. Some are more opulent in their charms, and are exceedingly handsome in their appearance. Others, again, have special attractions in the character of their foliage. Yet as a permanent flower for the decoration of our gardens and woodland spots, ever full of grace and beauty, and unrivalled in its adaptability to naturalising, G. nivalis stands supreme. The woodland scene shown in the accompanying illustration will bring home to the reader of THE GARDEN its charms when naturalised in myriads in some old domain. In many such places, the Snowdrop is literally at home, and its chaste flowers cover acres with their virgin whiteness and form a scene of enchanting beauty. Happy are they who possess such a picture of loveliness; but on a lesser scale the Snowdrop may be made to minister to our enjoyments even in the smallest garden.

It is a moot question whether G. nivalis is a native plant, but it is incontestably one which, through long ages, has delighted everyone who cares for flowers at all, and it is found in great numbers in places where tradition holds no record of any human habitation having existed.

In many parts where the Snowdrop has been apparently naturalised for generations, remarkably little variation exists. The writer has carefully searched for such variations among millions of Snowdrops. In many places the flowers are remarkably uniform in every point; in others, however, they vary to a remarkable degree. They differ in stature, in size of flower, and also, in many cases, in the length or breadth of foliage. Variation in colour seldom exists, but has been observed, in so far as the green markings on the flowers become yellow in some individuals, and even the spathes and stems may be found coloured with the same hue.

Two marked types—apart from G. nivalis Imperati, which, for the purpose of these notes, is excluded as a geographical variety almost worthy of recognition as a species—are to be found. One of these is poor in every way, with small, thin flowers and narrow leaves, and is much less effective through having shorter stems. The other, more plentiful, is finer in every way, and is worthy of being immortalised, as it has been, by our poets, though such a flower is certain to possess a place even if those gifted by the Muse left it severely alone. This is the type to be met with in general.

Of its varieties the double one is the best known. It is inferior in grace, but is not to be despised, especially when grown in grass for distance effect. Besides the ordinary double Snowdrop, a few other doubles exist, some of them the work of the late Mr. James Allen of Shepton Mallet, and a singular green one, rare and difficult to obtain, and more curious than beautiful. A sport or seedling of great beauty when examined is G. flavescens fl.-pl., with yellow instead of green markings.

This brings us again to the single yellow varieties. The best known of these hailed from Northumberland, one, G. lutescens, having paler yellow markings than the other, and is smaller and less imposing. The larger one is G. nivalis flavescens, and the other G. n. lutescens. Other yellow-marked varieties are in cultivation. One of these is a variety of G. Elwesii, and there are two forms of G. plicatus, but these are really outside the scope of these notes. It should be made clear that only the green markings of the type, and sometimes also the spathes and stems, are yellow. There is a record of one with the whole of its flowers yellow, but I fear this is extinct.

A pink Snowdrop has also been discussed, but the only pink one which has been recorded does not appear to exist now.

Of other varieties of the common Snowdrop there are considerable numbers, besides some seedlings of superior excellence not readily obtainable. Of the former, one of the most distinct is G. n. Scharlokii, with divided spathes and exterior green markings. G. n. virescens is a charming flower with green on the exterior of the petals. I believe these can be procured, but others are not on the market. The careful observer may, direct attention to the common Snowdrop in places where it abounds, in the search for variations. There may possibly be found a form with additional segments, one with no green markings on the blooms, some real Tom Thumb-like flowers, and others with tall stems and big blooms.

Dumfries. S. ARNOTT.

A CARPET OF SNOWDROPS IN A WOODLAND.

NOTES FROM THE RIVIERA

BY EDWARD H. WOODALL.

FRIENDS at home will be glad to know that the French gardeners are urging the plantation of early Potatoes on this coast, but they are, very rightly in my opinion, insisting that it is useless to plant Potatoes on *heavy calcareous soils*. Where the ground is favourable and has been well worked and manured for other crops, such as Carnations and flowers for the market, no special preparation beyond digging need be made, but as potash is the most essential thing in Potato culture, everything that can make wood-ash should be burnt and dug in, as that is the most available form at this juncture. Unless this can be done, it is much better to plant Cabbage, Spinach or any easily grown vegetables, according to soils and circumstances, so as to avoid waste of time and energy. The need of killing the caterpillars of the white Cabbage butterfly is insisted on, and, of course, the capturing of the butterfly when possible. It is stated that there is a great increase of this pest; hence the special need of its destruction. The severe cold of this winter must greatly delay the crops in the North. On this coast, though there has been no frost to do any damage, the weather has been very wet and cold, and sunshine

has been rarer than I ever remember, during the last five weeks at least. In spite of everything, spring will assert itself—the Almond trees are in flower; the beautiful rose Prunus Mume is covered with coral buds and pink, half-expanded blossoms; the Acacias, both Baileyana and dealbata, are in brilliant masses of yellow flowers; and wild Violets and Narcissi are abundant in sheltered and sunny slopes, so that the drear desolation of Northern lands is far removed from us

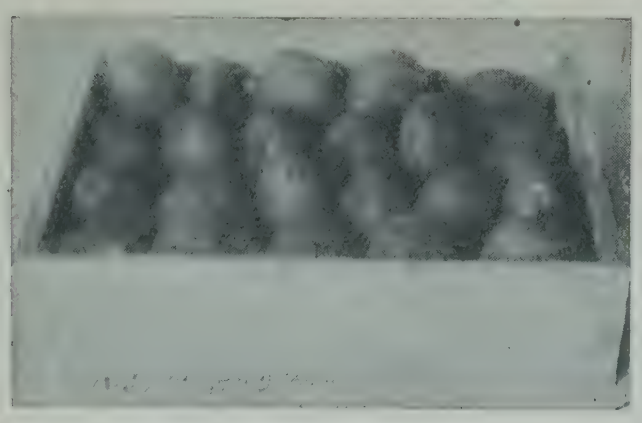
Owing to the impossibility of obtaining coal, even at fantastic prices, there are few, if any, forced flowers; but those cultivators who possess a goodly store of old Olive roots have kept a little fire going in one or two establishments for the sake of white forced Lilacs, which are not obtainable elsewhere. Until now the American colony have been lavish in their expenditure and demanded all such flowers as they have been accustomed to buy for themselves and their friends; but now, no doubt, their attention will be turned in another direction, and the increasing sun-heat will have to suffice for any heating power, in the face of the daily increasing scarcity of fuel of all kinds.

The bulbous-rooted Celery, or Celeriac, is much grown this winter, and its culture is urged as it is less expensive than Celery proper, since it needs no deep trenches or any earthing up. Up to this winter I often thought its roots rather coarse and woody; but whether it is owing to the wet season or to improved varieties, its roots, stewed and sliced, are far preferable as a food to the more expensive Celery. I hope it may prove so in England, and it is mentioned as being a suitable vegetable for small town gardens, so it is worth giving it a trial, especially in amateurs' gardens. Beta Cicla, the Chili Beet, is also a most useful and excellent winter vegetable, far preferable to Spinach where it does well. I fear it is too tender for winter purposes in England, but it is quickly grown in summer weather and should not be forgotten.

SPROUTING MAINCROP POTATOES

THE sprouting of maincrop Potatoes is a practice generally more honoured in the breach than in the observance. Earlies and second-earlies are sprouted by the careful cultivator as a matter of course, but the maincrops are often deprived of their shoots as they form, simply because planting-time is still some way ahead; or if left on they are left severely alone, so that they often present the appearance of that shown in Fig. 2. Such shoots are worthless, and one had better be without than with them; weak and drawn to start, they give weak and drawn leafy shoots, and the crop of tubers is a poor one. Instead of leaving maincrops to their own resources, cultivators would do well to give them just as much attention as is now deemed to be the rightful prerogative of the first and second earlies, for they will repay the trouble expended tenfold. It is a fact but little realised that the character and number of the sprouts on a Potato set largely determine the character and number of the tubers yielded as a crop; yet such is the case, and the cultivator can have—within reasonable bounds—either large or small tubers for his crop, according to the manner in which he manipulates the sprouts on his sets.

The first step to this is to set the selected seed tubers on end in a shallow box, as shown in Fig. 1. The illustration shows a box of Up-to-Date, still one of our very best maincrops, though a little more liable to disease than some of the newer sorts. As may be seen, the tubers are rather large, and the selection of good-sized sets is always advisable with varieties that naturally run large. Thus, 2oz. tubers should be regarded as the minimum size for Up-to-Date, the range



1.—BOX OF TUBERS SET UP TO SPROUT.

2.—SET WITH BAD SPROUTS; RESULT OF KEEPING TUBER AWAY FROM LIGHT.

extending from that weight to 3oz. To prevent the tubers from making the kind of sprout shown in Fig. 2, they should be stood on end as soon as possible, always keeping the large, or rose, end uppermost, as it is from there that the best sprouts are produced. The box should be stood in a light but frost-proof place and not be covered up at all, except in very severe weather. If covered, the sprouts become drawn and weakened, whereas the aim should be to keep them sturdy and semi-tuber-like.

In a very short time the tubers, if well exposed, should resemble that shown in Fig. 3, sprouts of varying strength being produced from all the bold eyes. In practice it is found that a tuber planted with all its sprouts retained gives a mixed crop, in which small tubers preponderate. The sprouts nearest the surface in planting

3.—TUBER SPROUTED NEAR THE GLASS, BUT CARRYING SUPERFLUOUS SHOOTS.

commence growing first, so that the tubers coming from them have a start of those from other shoots which have to travel further in order to get to the light, and this gives inequality of size; the fact of many sprouts being retained causes a weakening of the whole, and this accounts for the tubers being small. With fewer sprouts, and those on the top of the tuber or set, growth commences much more evenly, and as the strength of the tuber is concentrated on a minimum number of shoots, the shoots become much stronger, and the tubers are consequently larger. Many shoots, many but small tubers; few shoots, fewer but larger tubers, may be taken as a Potato-growing truism.

Taking it for granted that a crop of good-sized tubers is most generally desirable, all the sprouts on Fig. 3 are rubbed off, with the exception of two, or perhaps three, at the top end. Only two sprouts should be retained. It may, however, be found that other sprouts will push at the side of the two retained—from the same eye or basin—and these must be rubbed out as they show, leaving the two sturdy central sprouts in sole possession. Such shoots will be anything from half an inch to an inch long by planting-time, which should be the early part of April. If the shoots show a tendency to become drawn and weakly before the ground is ready for their reception, the box should be stood in a shed having a northern exposure to retard growth a little.

LEEK BULBS

ANYONE who grows Leeks may have a fresh and very palatable vegetable without much trouble. A little later on, when the remaining Leeks push up their flower-spikes, these should be at once nipped off, and then around the base of the stem there will form several roundish white bulbs; these are the "Leek bulbs" which the old-time gardener always took care to have during late spring and early summer. They are especially good when stewed, and may be used just the same as ordinary Onions and Shallots.

WHAT TO PLANT IN LATE FEBRUARY

By Audrey Clifton.

USEFUL HINTS FOR WOMEN ALLOTMENT HOLDERS.

THIS year the demand for vegetables will be greater than ever, and the prices correspondingly high. It is, accordingly, advisable to begin the work of planting the vegetable garden as early as may be consistent with success. Here, when we are all united in our efforts to bring the greatest war the world has ever known to a victorious conclusion, we may take a hint from that wise philosopher Francis Bacon, who lived when England was at death grips with the tyranny of Spain. His advice to those about to grow their own food supply is: "Consider what victuals there are which grow speedily and within the year, as Parsnips, Carrots, Turnips, Onions, Radish, Artichokes and the like. As for Wheat, Barley and Oats, they ask too much labour, but with Peas and Beans you may begin, both because they are less labour and because they serve for *meat* as well as bread."

Jerusalem Artichokes are a valuable food, and though they are not a general favourite, yet, when once you have acquired a liking for them, you will be a veritable Oliver Twist in your desire for more. The tubers should be planted about the end of February to a depth of 6 inches, and they should not be less than 18 inches apart. The plant belongs to the Sunflower species, and resembles this in its tall, thick growth. It grows in any ordinary soil providing it has plenty of light, and it is often grown in a position where the plants form a screen or a dividing border between allotments and plots. The stems and foliage decay in late autumn, and the queer-shaped tubers are ready to be dug up about the end of October and throughout the winter.

Radishes require good, well-manured soil to induce quick growth, otherwise they will be rank and woolly. Do not attempt to grow them in poor soil. A first sowing may be made in February in a bed in a position as warm as possible for that time of year. The soil should be well broken up and powdered; then it should be raked over till it is in a suitable condition for the seed to be sown as evenly as possible all over the surface. Cover the seeds with fine soil and pat firmly down with the back of the spade. Twigs or netting may be placed over the bed as a protection from birds. Further sowings can be made about every fortnight or three weeks. For the first sowing be careful to select a good early variety.

Broad Beans may be sown by the end of February in drills (*i.e.*, straight furrows) about 4 inches deep and leaving 6 inches between the seeds; while the drills should be at least a foot apart, for overcrowding means a poor crop and trouble with that horrible blight, the black aphis. When the plants are about 2½ feet in height, pinch out the tops, and they will then yield a good, healthy crop.

Early varieties of Peas may be sown this month in deeply dug and well-manured soil. Sow the seeds fairly thickly in drills about 3 inches deep; then, if some seeds fail or are attacked by pests, there will be no bare patches. Thin out to prevent overcrowding when the plants develop. It is a good plan to soak the seeds in paraffin for an hour or two as a protection against pests. As soon as the plants appear above ground they must be protected from birds. Stake them as soon as possible, and, if the weather is dry, plenty of water must be given. Slugs and mice are great enemies to Peas and, in fact, to all garden produce. Liberally dusting with soot will help to keep down the former, while traps should be set if there is any trouble with the latter. One of the most effective baits for a mouse-trap is a small bulb—a Narcissus, Crocus or Bluebell. Mice simply cannot resist these tempting morsels, and the same bulb may be used over and over again if it is buried for a day or two just to freshen it up for the next victim.

Rhubarb out of doors may now be forced into growth by covering it with litter and inverted tubs or boxes.

Horseradish up till now has been little cultivated in England. It grows in any kind of soil and increases rapidly. To secure plants, cut a root into pieces 3 inches or 4 inches long and insert these in very deep holes in the ground. The only trouble it gives after this is caused by its desire to take possession of the whole garden, but when kept within bounds (an odd corner of the garden where nothing else will grow) it is a valuable asset.

Land on which Cabbages have been grown should now be deeply dug ready for March sowing.

While the approximate date for planting the foregoing vegetables has been indicated, it must be remembered that much depends upon the situation of the plot, whether exposed or sheltered, and upon the climatic conditions prevailing in different parts of the country, and judgment must be used accordingly. Generally speaking, however, the middle to the end of February has proved a suitable time for these operations, and thus a portion of work has been put well in hand which has greatly helped when the heavier seeding-time of March has been upon us.

A GOOD DWARF PEA: PETER PAN

After my first trial of this variety I voted it to be a Pea with a good future before it, and although I note that at the trials made by the Royal Horticultural Society it failed to gain the society's full marks, after another season's trial I still hold the opinion that among those of its height it is equal, if not superior, to any. I am convinced that Peter Pan has a very long run before it.

In 1915, from plants raised in pots and in March planted in the alleys between Asparagus beds on a sunny slope, the pods hung in great profusion during the first week in June. Last year the seed was sown at the same time and the plants put into rows a few days later, and shortly afterwards were for nearly a week beneath 2 feet or more of snow. We had an abundant crop at the same time as in 1915, the pods being as large as, and much better filled than, any of the Gradus or The Pilot type, while the Peas themselves, and the table quality when cooked, were equal to any midseason Pea I am acquainted with.

Although I have no experience of the variety from seed sown in June, this year I intend making several sowings, and unless we have exceptional drought I am convinced the strong haulm and vigour of the plant which follow a thin sowing will result in plenty of pods next September or before.

F. R. Castle.

GARDENING IN THE NINETEENTH CENTURY

By J. C. Wright, F.R.S.L.

HORACE WALPOLE tells us that Kent, a celebrated gardener of his day, "leaped the fence" (referring to the sunken fences then in vogue) "and saw that all Nature was a garden." Though this expression was somewhat exaggerated, it helps to convey Walpole's idea that formality in the making of gardens was no longer to be an essential characteristic. Yet champions of the old order were many. Even Sir Walter Scott urged that "wherever spectacular effect is desirable, formal beds and parterres can never be dispensed with." We have only to make a tour of the parks and public gardens of the metropolis, Hampton Court and elsewhere, to see the splendid use that is now being made of the wealth of decorative material at our disposal—plants from all parts of the world, of which no one would have ventured to dream twenty or thirty years ago.

When the bedding-out system came into vogue, it appealed to the popular taste; it was orderly; it had colour. Herbaceous plants had to give way to the regularly formed beds of Geraniums, Verbenas, Calceolarias and other flowers whose colours are gorgeous in summer, but, having bloomed, are no longer required. Two features are absent in "bedded-out" plants—there is a lack of individuality, and the flowers are mostly of the same colour and height. One other drawback may be noted—scent is often wanting, so highly appreciated by our grandfathers. How they loved the "pot Lavender," the Marigold, the "crown imperial of the Lily"! The professional gardener, however, had his way, and "bedding out" developed in a manner which was considered a remarkable exhibition of taste thirty years ago or more. As shrubs had been lopped and trained to imitate various forms of animal life, so flower-beds were made to imitate the patterns on carpets.

Speaking generally, it may be said there has been a readjustment of all these ideas, and, in adapting them to modern life, garden-makers have aimed to plan with due regard for precision of line and balance of masses. While introducing the quiet dignity of former periods, gardens have become less formal. "Uniformity and conformity," said Miss Edgeworth, "had had their day." For a time, indeed, there was a violent reaction—only for a time, however—for methods more or less appropriate. Gradually we may say we have drifted towards the common-sense view that Nature must be left to herself as much as possible, but may be assisted to give us of her best. Hence the landscape gardener studies the site of his garden—its aspect, the character of its soil, its contour. A plot of land has been compared to a human face, and "that man is unwise who, to suit preferences, for any given style of garden, or with a view of copying a design from another place, will ignore the characteristics of the site at his disposal." In a word, a garden should be in conformity with its surroundings, and the individual touch should ever distinguish it.

By the application of heat and by retardation gardeners are now able to achieve marvellous results, and experiments that a century ago would have been considered outside the range of practicability are now carried out with success.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Fruit Under Glass.

Vines.—Disbudding of surplus shoots from each spur should begin as soon as it can be determined which shoot shows the best bunch. As a rule all spurs push forth one or more growths, and, except in the case of a blank on perhaps the opposite side of the rod, one shoot only to each spur is ample, as overcrowding the growth is one of the worst features in Vine culture. Too often the shoots are left until they are 6 inches or more long before surplus growths are removed. This is gross neglect, doing much harm to the remaining shoot on the same spur, and causing a check to growth by the sudden removal of so many shoots from the Vine.

Mealy Bug.—Vines infested with this pest should now be examined daily, as more can be done at this stage to rid the Vines of this pest than later on when the growth is more crowded and the insects more numerous. A small camel-hair pencil dipped in pure methylated spirit is the best thing to use with which to touch each bug. The spirit will kill all of these insects so treated and do no harm to the Vines. No matter how well the Vines were winter dressed, there are sure to be a few insects lurking behind, and now is the time to wage war against them. With the Vines showing bunches, the night temperature should not be less than 60° by night, with a rise of 15° by day with sun-heat. Just now, with such severe frost, it is not wise to employ high night temperatures, for two reasons—cost of fuel and a weakening of the growth.

Pot Vines.—The bunches, one on each shoot, are now well discernible. The vigorous shoots should be topped two leaves beyond the bunch; the weaker ones may retain three leaves as an encouragement to growth. The roots must be well attended to and carefully watered, but too much water must not be given while the bunches are in flower. As the berries approach thinning size, weak tepid liquid manure should be given, top-dressing the roots on the surface with turfy loam, and building this up 2 inches around the edge of the pot to add to rooting space. With the soil add Thomson's Vine Manure freely where the pots are full of roots. The temperature should not fall below 65° by night as the bunches approach the flowering stage.

Melons.—The early batch will now be ready for planting out. Prepare hillocks, 15 inches apart, of turfy loam with half-decayed horse-manure one part, made quite firm, so that the growth will mature as it progresses. When the soil is loose, the roots are apt to ramble away, especially where manure is employed as I advise. The growth then is not so short-jointed as is desirable to obtain a quick "set" of fruits. Some persons recommend all loam for Melons. I do not. Too often the loam is lacking in humus and "heart," and such material does not infuse sufficient vigour into the plants to give the best results in the number and quality of the fruits.

Peaches and Nectarines.—Where the buds are advancing to the flowering stage, the house should be fumigated as a prevention of green fly attacking the young leaves just at a time when the blooms are fully expanded and at a stage when no means of checking the spread of the aphis are available. A night temperature of 50° is ample at that stage.

The Flower Garden.

The Herbaceous Border.—The border should now be finally dug over, adding manure where necessary for hungry plants like Phloxes, Michaelmas Daisies, Rudbeckias and Heleniums which have occupied the same site for several years. Where a thick mulch of decayed leaves, old potting soil and vegetable refuse was put on in the autumn, this, if now dug in lightly, will encourage the surface rooting of many subjects and provide good soil for such plants as Canterbury Bells, Lychnis, &c., that have been wintered in frames. Gladioli of the brenchleyensis type may now be planted in clumps to fill gaps, and will make a good display later.

E. Molyneux.
(Steward to W. H Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

French Beans.—Early lots of this favourite vegetable will now be bearing well, and should be given copious supplies of liquid manure, with an occasional change of a suitable artificial fertiliser. Keep a moist atmosphere with a temperature of from 55° to 60°. To maintain the supply, seeds may be sown at intervals of a fortnight. Still use a good forcing variety.

Vegetable Marrows.—Where these are desired early, seeds should now be sown singly in 3-inch pots and germinated in a genial temperature. Afterwards they may be planted on a mild hotbed, and, when danger from frost is past, the frames may be removed. The plants will then grow on strongly till autumn. With us the small-fruiting varieties are most popular.

Parsley.—To have nice strong plants for early use, a sowing should be made in pans immediately. Afterwards prick out into boxes and keep growing freely, planting them out on a warm border when sufficiently hardened off. In this way a dearth in the supply is often made good, as old plants die off unaccountably at times.

Rhubarb.—Now that the crowns are showing signs of growth, anyone contemplating replanting may do so with safety. Too often the Rhubarb-bed is put in some out-of-the-way corner of the garden, but if choice stalks are wanted this is a mistake, as Rhubarb is partial to a good exposure and responds readily to generous treatment. The ground should be well prepared and given a good quantity of thoroughly rotted manure some time previous to planting.

Fruit Under Glass.

Fruit Trees in Pots.—Where fruit trees are grown in pots they ought now to be taken in hand and transferred to their inside quarters. The flower-buds of Peaches and Nectarines will now be swelling freely, and care should be taken that the trees are not allowed to become dry at the roots. Apples and Pears, after being carefully pruned and sprayed, should be placed in the coolest corner of the house. The structure should be kept well ventilated, taking care that the trees when flowering are not subjected to cold draughts.

Plants Under Glass.

Smilax.—Plants of this elegant climber will soon be starting into growth again, so should be split up into small portions and repotted into 7-inch pots. Where long trails are required, the back wall of a vinery suits admirably for running up threads, to which the young growths will readily catch on. Seed may also be sown now, and excellent results may be obtained in this way.

Propagating.—It will now be necessary to propagate many of the soft-wooded plants, and most of them will root readily if bottom-heat is provided. Ageratum, Heliotrope, Lobelia and Alyssum should all be put in now. Stools of summer-flowering Chrysanthemums which were lifted and placed in boxes for the winter are now sending up cuttings freely, and these should strike quickly if dibbled into sandy soil and kept shaded from bright sunshine. To have good strong plants of these, it is necessary to transplant into a nice compost and grow on in a cool frame till near the bedding-out period.

Sweet Peas.—Where the finer varieties are grown, it is almost essential that they should be started in pots or narrow boxes and planted out. Seed should now be sown, and may be germinated in a cool house, transferring the seedlings to a cool frame as soon as they show their second leaves. Grow them on as sturdily as possible, so that they may suffer no check when planted out in their flowering quarters.

Polyanthuses.—A sowing of these lovely sweet-smelling subjects should also be made, as they enjoy a long season of growth. When large enough to handle, the seedlings should be pricked off into boxes, and later planted out in nursery lines in the reserve garden, where they may be grown till required for bedding in the autumn. The Munstead strain has given great pleasure when grown here. James McGran.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

TO IMPROVE ALLOTMENTS

THE rush for allotments all over the country will probably mean earlier cropping than usual in some localities, and early crops are much helped by sun and shelter. It is perhaps not generally realised how much wind retards development, nor how easily this nuisance can be reduced. Low thatched hurdles or other simple wind-breaks are of much use in wind-swept localities, and if placed, say, 20 yards or 30 yards apart they appreciably improve the temperature which continued wind always brings about. They keep plants close to the ground from being buffeted by the elements, another reason why wind is so injurious. Roothold is shaken and root-fibres torn, so that growth may come to a standstill altogether till the nuisance is abated. Wind spreads disease, too, rapidly, and in a few hours the spores of the Potato disease may be blackening a healthy crop. Rabbits and hares can also carry this scourge.

As regards aspect in cropping a kitchen garden, this is a point which seems seldom to be noticed unless there is a wall to enforce attention. It is understood with a greenhouse; but how often does the course of the rows of vegetables allow the sun to strike them at a good angle, up and down rather than across, and thus benefit the stems as well as the leaves?—for all green parts of the plant feed on the air under the influence of the sun. It is with the earliest vegetables that this is of most importance, and it is certainly not always easy to get the full benefit, or most convenient, perhaps, in other ways; but it is a point worth bearing in mind. With a cold frame the proper utilisation of the sun's rays is all-essential to success in the very early year, and it is said that almost as good results can be got this way with half-hardy seeds as with a greenhouse. In Australia corn is sown so as to get the benefit of the sun up and down the rows.

Drainage of Allotments.—Drainage is a point which is not sufficiently considered. A water-logged soil is bad in every possible respect. It makes manures almost or entirely useless, and it terribly retards growth, or even prevents it. The temperature of such land is several degrees below that of drained land, it has been found by experiment; and, moreover, it encourages the bad kind of decay which we find in boggy ground. This may involve direct loss of nitrogen when vegetable matter is in the soil, because a harmful kind of bacterial action is then set up in the absence of air.

Nearly all of the available sun is taken up in the very slow process of drying from the surface, so the plant gets very little benefit and is always backward. The remedy is more difficult, but skilfully cut water-gutters will do a lot of good at small expense, and the system of planting in raised beds is better still. We see this latter method occasionally adopted even in cottage gardens in wet districts, and it is a very useful though rather laborious one, and for this reason, perhaps, is seldom adopted. But it should meet the case in the great majority of wet plots that are at all feasible without regular bottom drainage, and its advantages should be better known. A less drastic method is to dig in baked clay, ashes and cinders, and the two methods may be combined if necessary. Some of the low-lying plots now on offer may need attention in this way before they can be made profitable.

G. T.

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AIDS TO INCREASED EGG-PRODUCTION

FEEDING plays a very important part in successful egg-production, although very many poultry-keepers do not realise this. There are, I might add, numerous systems of feeding, brought about by modern methods of egg culture, the old plans having been drastically altered.

Soft Food for Tea.—At one time it was considered proper to give the fowls a breakfast of warm mash and a tea (or evening feed) of grain. This method of feeding has had a long innings, and is, of course, widely adopted to-day. Quite a new system, however, has been inaugurated during the past season or two, and the results from it have been immensely satisfactory. I refer to the giving of the grain for breakfast and warm soft food for tea. The disadvantage of the old order of things was that the birds greedily devoured their morning mash and became lazy during the greater part of the day. This inactivity at a time when the birds should have been busy in the nests was very much against successful egg results, and poultry authorities endeavoured to find a remedy.

Activity Essential.—It was found that the morning mash encouraged laziness, since the layers would take their fill (after so many hours on the roosting perches) and mope about all the morning. A new system was tried whereby the mash was given at tea-time and the grain-feed at breakfast-time. At first the new order of feeding was not popular, since all poultry-keepers had been schooled by books and writings that in the winter months grain was essential the last thing at night, because it took longer than soft food to digest and therefore sustained the birds better during the dreary winter evenings. Home poultry-producers are very slow in taking up new ideas, but in time the idea spread, and I suppose during the last season the majority of poultry-keepers adopted the new system of feeding.

Mash at Midday.—There are, of course, deviations from the new plan. Many poultry-keepers, for instance, give the soft food at midday, and this was adopted in the Utility Poultry Club's laying competition held at the Harper Adams Agricultural College, Newport, Salop. The morning feed consisted of grain scattered in the litter to promote exercise and to give the birds natural warmth in working for the same. At midday the mash was given, followed by a meal of grain—scattered in the litter—at tea-time. In digging new ground in the direction indicated, the sole object was to prevent the moping and inactivity of the hens which was so noticeable after a full morning meal of soft food. The innovation has been a great success.

Confined Fowls.—The cause of a poor supply of eggs in the winter months from laying stock, especially in confined runs, can be traced to inactivity. The busiest layer is invariably the best egg producer—a point all should remember. There are many who, naturally, still remain loyal to the old method of feeding, viz., mash for breakfast and grain for tea. If they will not try the newer system, I strongly suggest that they give their birds half rations of soft food for breakfast, followed an hour later by half rations of grain scattered in the litter. The scratching exercise thus provided for the birds will neutralise the disadvantage possessed by the giving of a full breakfast of soft food. It is during the cold winter months that this new departure in feeding is especially recommended.

Glass Lights.—From my notes the reader will already have gleaned the fact that scratching exercise *ad lib.* is essential if egg results are to be satisfactory. Now, it is highly imperative that the house, shed or structure that is set aside for the purpose be deeply bedded down with litter. The flooring, too, must be dry, and on no account must the litter be allowed to get damp. Again, the scratching shed or shelter must be roomy and light. The layers cannot make the most of their scratching exercise if, for instance, the floor is dark. The idea in providing this health and egg promoting exercise is to encourage the layers to hunt in the litter for the last grain. If the house is dark, the poultry-keeper will be well advised to remove the wood for a depth of, say, 2 feet from the bottom of one (or two) sides, and substitute thick glass. The latter will admit plenty of light and enable the hens to enjoy to the full the scratching for the grain.

Light Houses.—Dark houses of the scratching-shed type are not conducive to the best egg results. In the winter months the birds have of necessity to go to roost early, and the earlier they retire the longer they spend on the perches. A glass panel in the roof of a house and one or more glass "bottom lights" such as I have referred to will provide longer hours for scratching. This is so because the birds will be able to see to work in the litter until a later hour than would be possible were the structure dark. A hen always scratches *away* from the light, and before the grain is scattered among the litter the latter should be raked against the "bottom light." The fowls will very quickly start to work grain-hunting and, while they will benefit in health, the owner will see his egg returns increase.

Daily Rations.—Most beginners in poultry-keeping are anxious to know how much food a hen requires per diem. One can but recommend as an approximate average 2oz. of grain and 2oz. of soft food. The amount of food required is governed by whether or not the hen is in lay. If a bird is in full profit and producing eggs almost daily, she will naturally require more food than her sister who is resting. If, too, the laying stock are provided with scratching exercise *ad lib*, one need not fear overfeeding. No set rule can therefore be given as regards the exact amount of food to be given a hen per diem. The owner is in the best position to judge.

Size of Layer.—The size of the laying hen has an influence on egg-production. Many poultry-keepers strive for heavy birds, while not a few have a liking for the small ones. The mediumsized bird undoubtedly proves the best layer in all breeds, and this has been amply proved in laying competitions of the past. I am afraid that the question of "size" in so far as aiding or retarding laying has not received much attention in the past. It is, nevertheless, a very important matter. I am not concerned so much with the cost of feeding when treating upon the subject, although very many are under the impression that a small bird costs less to feed than a large one. A heavy hen is very prone to over-fatness, which is very detrimental to successful egg-production, so that of the three sizes I strongly recommend the medium weight. The latter has sufficient flesh and fat to combat the bitter winter elements, in which points the very small bird fails somewhat.

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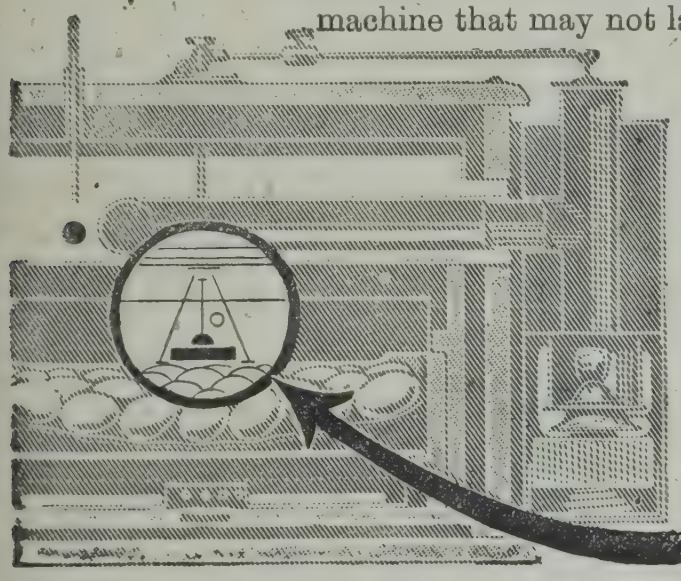

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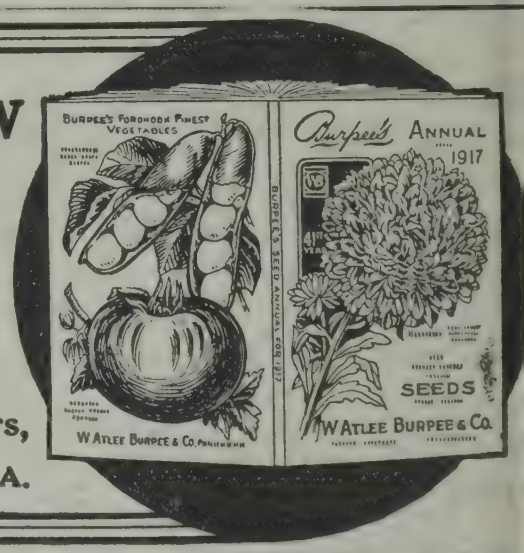

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THE VERY LATEST CARNATIONS.—American Giant Tree Carnations, lovely colours, very free flowering. Grand for cold or warm greenhouse or even window. 3 for **2/-**; 6 for **3/6**; 12 for **6/6.** Strong, well-rooted plants. Soon flower.

THE REAL, OLD-FASHIONED LAVENDER (flowers and foliage deliciously scented).—Everybody likes Lavender; grows anywhere. Strong plants: 4 for **1/6.** No garden complete without this old favourite.

NOW VERY BEST TIME TO PLANT PÆONIES.

GIANT FLOWERING JAPANESE AND CHINESE PÆONIES.—Truly glorious, beyond description. The most magnificent of all Hardy Plants. The fragrance of these new Pæonies creeps into the senses, soothes, delights, refreshes. Its charm lingers in the memory long after the perfume itself has stolen away. Double Herbaceous Pæonies are the most magnificent of all hardy herbaceous plants; they are immense in size, gorgeous in colour, yet withal of exquisite delicacy, and of indescribable beauty. Much that has been said of the Rose by poets of all ages might with equal truth be addressed to these truly noble flowers. A place should be found for Pæonies in every garden.

VERY SPECIAL PRICE.—All colours, mixed, strong roots, full of buds. 3 for **2/6**; 6 for **4/6**; 12 for **8/6**; 25 for **15/-**; 100 for **55/-.**

PÆONY, QUEEN VICTORIA.—Magnificent pure white, delicately scented, and beyond all question the finest pure White Pæony in existence. No description can do justice to this glorious Pæony; it must be seen. Extra strong roots, **2/-** each; 3 for **5/-**; 6 for **9/6**; 12 for **17/6** (worth 7/6 each). Special photographic reproduction, full plate size, of this Pæony, free with all orders.

TWO LOVELY BUSH CLEMATIS.

CLEMATIS ERECTA ALBA.—Grows in lovely bush form, about 3ft. high; very fragrant and hardy, yielding huge clusters of white blossom, with a delicious perfume. For large borders, and planted along side walks they are simply delightful. 2 for **2/6**; 4 for **4/-.**

CLEMATIS DAVIDIANA.—This is a lovely species of Clematis, growing in bush form 3ft. or 4ft. high, and yielding through the summer great panicles of lovely blue flowers,

HYBRID DELPHINIUMS.—Can offer plants from my superb collection. Single and Double Exhibition varieties, towering spikes of the most exquisite blue shades imaginable. All who see these new hybrids are amazed at the richness and intensity of colour. Without seeing them no one can form the slightest conception of their splendour. Perfectly hardy, and thrive anywhere. 6 for **1/6**; 12, **2/9.** Extra large, 6 for **2/-**; 12 for **3/6.**

WINTER HELIOTROPE (Tussilago fragrans).—Perfectly hardy, blooms in the open, mid-winter. One spray will scent out a large room. Anyone can grow this in sunless town garden, or even backyard. 6, **1/3**; 12, **2/-**; 24, **3/-.**

AUBRIETIA GRÆCA.—A gem for the rockery or edging, dwarf, compact tufts, covered with lovely blue flowers for months. 6 for **1/3**; 12 for **2/3.**

RARE NEW FRUIT, SHOULD BE IN EVERY GARDEN.

RATHBUN BLACKBERRY (New American Giant—This fruit is very large and handsome, intense black, with very high polish, and without any hard core, juice high flavoured; of so superior a quality that it is in a class by itse Those accustomed to the old varieties would scarcely recogn it for a Blackberry. 3, **2/6**; 6, **4/-**; 12, **7/6.**

BLACK CURRANTS, BOSKOOP GIANT (New). This is the finest and largest Black Currant in cultivatio The fruit is of great size, splendid quality and flavour, and t plant is a most abundant bearer. Even young plants literally covered with huge bunches of fruit almost as la as Grapes. **4/-** per doz. Smaller trees, **3/-** doz.

RASPBERRY SUPERLATIVE.—It gained a First-cl Certificate at the Crystal Palace Show, and First-Cl Certificate at the Royal Horticultural Society. This Rasphe is growing more in favour every year, and it seems to sta drought better than any other. The fruit is very large, a an abundant bearer, and good for dessert. **2/6** per doz. for **4/-**; 50 for **6/-** 100 for **11/-.**

BRUGMANSIA KNIGHTII.—Produces the Sweete and Most Delicious Fragrance of any Flower on Ear Called also Angels' Trumpets and Wedding Bells. One of t grandest hard-wooded plants I know of, and easy to gr It grows several feet high, and is quite bushy. The foliage large and tropical, and its bloom—how shall I describe wh words cannot picture? Imagine a little bush 3ft. high, a with 20 or 30 pendulous blooms open at once; great crea white blooms, 11in., 12in. or 13in. long and 8in. wide, o texture resembling thick fluted satin. Imagine these crea trumpets pouring fragrance forth till the air is heavy w sweetness. Imagine all this, then remember the blossoms l for days in perfection, and that new buds are constan coming on. It is quite as easy to grow as a Geranium Fuchsia, and requires the same treatment. A good plant in garden during the summer is the talk of the neighbourho **Stock limited.** Strong plants, one or two years old, **5/-, 7 10/6** each. Strong plants, **2/6** and **3/6** each.

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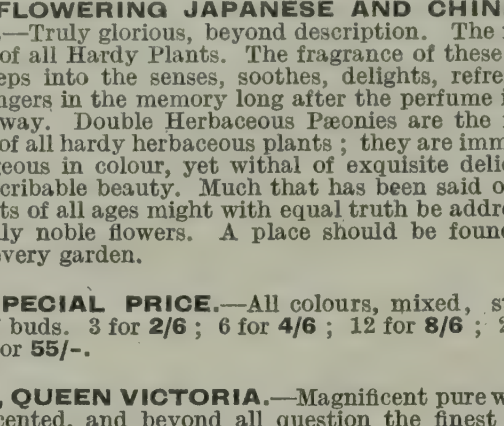

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Better, Heavier Crops than any other Seed.

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28/- cwt., **14/3** ½-cwt., **7/3** 28 lbs., **3/8** 14 lbs.

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28/- cwt., **14/3** ½-cwt., **7/3** 28 lbs., **3/8** 14 lbs.

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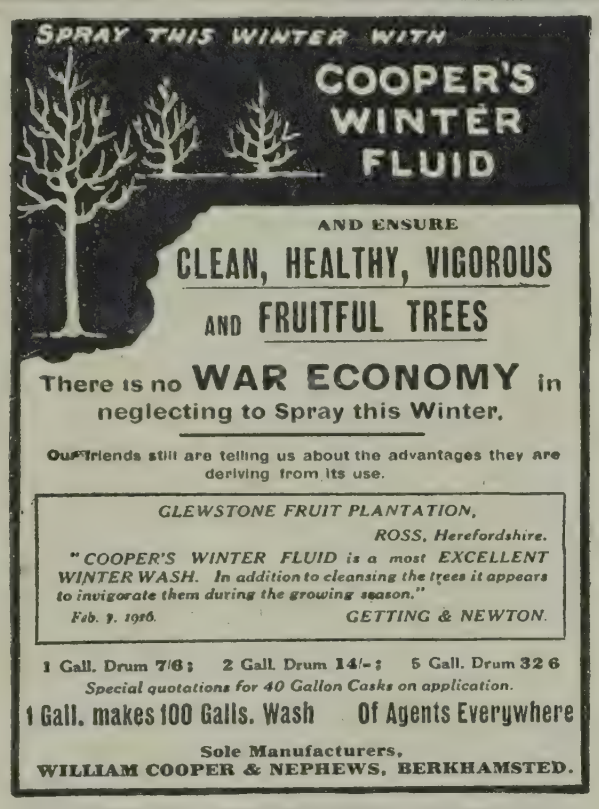

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FIG. 2.

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Queen Alexandra...		Evergood	
Early Rose... ...		Royal Kidney ...	56 lbs.
Hebrons	56 lbs.	Northern Star ...	9/3
Sharpe's Express...	10/3	British Queen ...	
Myatt's		Up-to-Date ...	28lbs.
Eclipse		Table Talk... ...	4/9
Llewelleyns ...	28 lbs.	Dalhousie	
Epicure	5/3	Cornwalls	14 lbs
May Queen... ...		Triumphs	2/6
Queen Mary ...		Dalmeny Hero ...	
Duke of York ...	14 lbs.	Pioneer	7 lbs.
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Puritan			
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All the Year Round, very distinct, large heads ...	**6d.**
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Miss Willmott, deep orange pink	40
Mont Blanc, the earliest pure white	40
Mrs. Collier, primrose	40
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Prima Donna, soft pink	40
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Queen Alexandra, bright scarlet...	40

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ESTABLISHED 1885.

was done very late in the season, and saw the great destruction of tiny tubers laid bare and cut off by the plough. Many years ago much was written in the gardening Press about the Jensen system of soiling Potatoes by placing a spadeful of soil right in the centre of the haulm at the earthing-up stage or a little later. Cottagers and others had, long before that time, "soiled" their Potatoes, but I believe it to be correct that Dr. Jensen made the practice widely known. As a boy, about forty years ago, I used to spread the haulm while my father plumped a spadeful of soil right in the centre, and certainly we did not experience much disease, but reaped heavy crops of fine tubers. In those days, however, seed tubers were planted with more sprouts than is the case now. Personally, I "soil" Potatoes now, where there is one strong stem, or three at most, by placing a spadeful against the single stem on the top of the ridge. This is done a few weeks after the ordinary earthing-up. Perhaps other readers do so.—GEORGE GARNER.

Mache.—Last August, when it should have been sown in the open, there were difficulties and interruptions; the time went by and the Corn Salad was not sown. But, luckily, when the omission was observed towards the end of September there was a vacant three-light frame, and it was soon full of Mâche. If it had been in the open ground it would have formed little dark green, half cabbaging rosettes; but in the frame, where it was sown rather thickly and is a little drawn, the leaves are taller, paler in colour and, as a salad, all the better and the more delicate. —G. J.

Herb Pudding.—I venture to describe an excellent dish suitable to the present time. It is known throughout Cumberland and Westmorland as "herb pudding." In the early days of fresh spring growth collect young Nettles, Dandelion leaves, fresh green sproutings from any garden vegetables, a few Leeks, and the leaves of a herb known locally as "Easterman Giant." I do not know the common name for this herb, but it looks like Sorrel and is grown in cottage gardens expressly for this purpose. [It is probably Large Sorrel (Rumex scutatus) sometimes used in salads. Kindly send a few leaves.—ED.] The cottage housewives vie with each other in the number and variety of the ingredients of their herb puddings. All the herbs are washed, cleaned, and all hard stalks removed; they are chopped, and with half a cupful of Barley to three or four handfuls of greens they and the Barley are tied in a cloth and boiled for two and a half hours. The pudding is then taken out of the cloth, the water drained off, and butter, pepper and salt added to the pudding. It is then ready to serve, but, before doing so, it is improved by a sprinkling of chopped hard-boiled egg on the top. If any remains, this dish can be reheated the following day with advantage. I believe this dish to have been in use from ancient times. The custom here is to eat it on Easter Sunday, and I think this points to a ceremonial eating, possibly dating from Pagan times. The Barley would represent the old crop; the sproutings, the revival of vegetation. Though, nowadays, it is generally eaten as a vegetable with meat, we think it too delicious a dish to be obscured in such a way, and we prefer to serve it as a separate course. I should be greatly interested if any readers of THE GARDEN can report a similar dish in use in any other part of England.—M. H. SCOTT-NICHOLSON, *Carlisle.*

POTATOES SUITABLE AND UNSUITABLE FOR HEAVY SOILS

I READ with much interest Mr. F. R. Castle's notes on "Six Potatoes for Light Soil" in a recent issue of THE GARDEN, and it has occurred to me that a few words regarding the varieties that succeed best in this district might be of some little help to others having soil and climate of a similar nature. It is often just as helpful to be warned against unreliable sorts, so I also append a brief list of those that have proved failures here.

May Queen.—This during the last four or five years has proved distinctly the best early variety, outclassing Duke of York and Midlothian Early both as regards yield and table quality.

Harbinger.—Very free cropping and of the finest quality when cooked, this splendid little Potato comes in as a first-rate succession to May Queen. The tubers are never large, neither are there many of unusable size.

Sutton's Abundance.—In this district probably the best of all Potatoes for use from September to January. Slightly given to disease in bad seasons.

Windsor Castle.—A true stock of this fine Potato gives excellent returns here, but there are some poor stocks on the market which have kept it from securing as high a place in popular esteem as its merits deserve.

The Factor.—This is one of the few late Potatoes that one may start to use as soon as the tubers have attained a fair size. Of very much better quality than Up-to-Date, and keeps quite good right up till May or later.

Langworthy.—In my opinion the finest of all late Potatoes for table quality, and the best keeper. With care it can be used right on till July of the following year. It demands, and must have, good cultivation, heavy manuring being a necessity if the best results are to be looked for. Under proper treatment the yield is really good, and "seconds" are a negligible quantity.

Arran Chief.—I have not yet grown this variety, but intend to do so this season. It is of fine table quality, but to have it at its best the soil must not be too rich. It yields heavy crops under field culture in this district, and is extensively grown.

Unsuitable Varieties.—During the last twelve years I have tried dozens of varieties, and in most cases the reason for rejection was poor table quality, most of them yielding quite satisfactory crops. Epicure is hopelessly "soapy" in texture and diseases badly. Sir John Llewelyn gave great crops, but nobody would eat them. The Chapman is much inferior to The Factor, producing very large, coarse tubers here. British Queen, although of very fine quality, is a rather poor cropper. Duchess of Cornwall is a great cropper, but the tubers were very often large, coarse and hollow, while the table quality left something to be desired. Golden Wonder is the worst cropper I have tried, and also produces an abnormal number of "chats." What's Wanted is very similar to Langworthy, but not quite so good here. Dalhousie Seedling is poor in quality and very unequal in size. Up-to-Date gives an enormous crop, but not one person in ten can appreciate its peculiar flavour. I discarded it many years ago. Our soil is a heavy, clayey loam, and the district late, being some 380 feet above sea-level.

Preston House Gardens, Linlithgow. C. BLAIR.

HARBINGER, A GOOD EARLY POTATO FOR A HEAVY SOIL.

THE CULTIVATION OF PARSNIPS*

THE Parsnip is of more value as an article of food than is commonly supposed. It contains about 17 per cent. of dry matter as compared with about 12 per cent. in Swedes, 13 per cent. in Carrots, and 25 per cent. in Potatoes. The dry matter of Parsnips differs from that of Swedes and Carrots in containing an appreciable proportion of starch, thus resembling the Potato. The food value of Parsnips is about three-fourths that of Potatoes. Since, therefore, difficulty may be experienced in obtaining sufficient seed Potatoes during the coming spring, Parsnips might well be grown as a partial substitute.

PARSNIP TENDER AND TRUE.

An average crop of Parsnips will yield at least 10 tons to 12 tons per acre (140lb. to 168lb. per rod of 30¼ square yards). At the present time Parsnips are worth about £8 per ton, but the normal run of prices is much lower. Surplus supplies will furnish excellent feeding material for pigs, for which purpose they may be used, when available, to eke out small Potatoes.

Varieties.—The modern Parsnip is a cultivated form of the wild Parsnip (Peucedanum sativum), often found in hedgerows and on roadsides, especially on chalky soils. There are several cultivated forms, of which the following are the chief: (1) The Student Parsnip, with a long root and slightly concave crown; (2) the Hollow Crown, with thicker root at the top and deeper hollow crown; and (3) a Turnip-rooted form. For rich land The Student is perhaps the best variety, but for general purposes the Hollow Crown type is the most suitable. Of the latter variety several types have been brought out by seedsmen. As the seed does not retain its vitality long, care should be exercised in purchasing. Even two year old seed is very unreliable.

Soil and its Preparation.—The Parsnip is best adapted to rich, sandy soils such as are found in the principal market-gardening districts. On such land it is relatively easily dealt with on a large scale; but where the labour and expense of lifting need not be considered, Parsnips may be grown successfully on nearly all kinds of soil from light sand to heavy clay, provided it is well cultivated. The extremes, whether of light or of heavy soils, are the least suitable. (As a rule Parsnips will answer better than Potatoes on heavy soils.) There need be no hesitation in sowing Parsnips on recently broken grassland, provided the soil has been turned over to the depth of about a foot and the subsoil well stirred.

On a field scale the land is usually ploughed as deeply as possible in autumn, cultivated once or twice before mid-February, and then harrowed till a fine seed-bed is obtained. On the heavier class of soils late cross-ploughing is rarely an advantage. A deep, fine tilth lessens the risk of curving and "forking" of the roots. As, however, the bulk of the root of the hollow crown varieties is formed in the first foot of soil, "forking," deeper down, is not of so much consequence.

Manuring.—Parsnips come best after a crop that has been heavily dressed with farmyard manure. As a rule, no manure should be applied directly to the crop, or "forking" may result; but if the soil is poor, about 15 tons of manure per acre (2cwt. per rod), applied in autumn and dug or ploughed in, will be an advantage. Parsnips grow over a long period; hence the object of manuring should be to supply a sufficiency of fertilising material that will become gradually available throughout the season of growth. During the working of the land the following artificials, whichever are most readily obtainable, should be harrowed in: 6cwt. of superphosphate or 8cwt. of basic slag per acre (4¼lb. and 5½lb. per rod, respectively) or an equivalent in the form of a mixture of superphosphate and steamed bone-flour, or superphosphate and ground mineral phosphate. Just before sowing the seed, sulphate of ammonia, at the rate of 1cwt. per acre (¾lb. per rod) should be worked into the top soil, and, after singling, a further dressing of sulphate of ammonia, at the same rate, should be applied between the rows.

In the case of recently broken grassland, or land previously well dressed with manure, 15cwt. to 20cwt. per acre (11lb. to 15lb. per rod) of lime should be worked into the ground when cultivating.

Rate and Method of Sowing.—Parsnips should be sown as early in the year as the condition of the soil will permit, usually from about the middle of February to the second week in March. Seed is usually drilled at the rate of 6lb. to 7lb. per acre (1oz. per rod, or, say, 200 feet of drill), in rows 15 inches to 18 inches apart, and about 1 inch deep, and lightly covered. If the seed is known to be of satisfactory germinating power, it may be economised by mixing with bran, sand or similar material; or, in the case of small areas, three or four seeds may be dropped together at intervals of about 8 inches along the row. When grown as a farm crop it is often desirable to mix Parsnip seed with a small quantity of grain, which serves to indicate the rows and assists in cleaning where necessary. When the plants show the "true" leaf as well as the "seed" leaf, usually about a month from sowing, they should be thinned out to about 6 inches to 8 inches apart. (This is usually done by bunching with the hoe and afterwards singling by hand.) The soil between the rows should be stirred several times in the course of the summer.

Cooking.—The full food value of Parsnips is obtained only when they are boiled whole till quite soft. Cut up and served with butter or dripping, salt and pepper, they make a most wholesome dish. They are also excellent for flavouring soup and stews, and for making vegetable pies, &c. In various parts of the Continent salt fish and Parsnips are a favoured dish.

* Leaflet issued by the Board of Agriculture.

THE ALLOTMENT WEEK BY WEEK

By A. CECIL BARTLETT.

IF early Potatoes are to be grown, and in view of the undoubted shortage of eating tubers which we shall experience next summer, it will be wise to plant fully 14lb. of an early sort. The planting tubers should be placed at once in boxes in a light, frost-proof place to sprout. The sprouted tubers are fully ten days ahead of those which are dormant when planted. The best sorts of Potato to plant in the different localities is a matter largely for local decision, and the beginner is advised to seek the advice of an experienced grower near by. But, as a rule, the best early sorts are Epicure, May Queen, Duke of York, Sharpe's Express, Ninety-fold and Myatt's Prolific; while for second-earlies a selection may be made from Eclipse (which is generally a wonderful cropper and but little later than the true earlies), British Queen, Conquest, Great Scot, Royal Kidney and Windsor Castle. There are numberless late sorts, but the best for average soils are Arran Chief, Evergood, Golden Wonder, King Edward VII. (especially if the soil is a trifle heavy), Sutton's Abundance and a good strain of Up-to-Date. Of the last named, Dalhousie Castle and The Factor are of fine quality, and the former usually crops well in light soils. For a poor quality, stiffish soil I should recommend Epicure as early, Royal Kidney for second-early, and King Edward VII. as main crop; while on light soil Duke of York, Great Scot and Dalhousie Castle, in similar order of use, would be a good general selection. It is yet too early to plant many Potatoes in open situations, but a few pounds of an early sort may well be tried in the hope of an early digging.

The best average distances are 9 inches apart in rows 2-foot apart for the earlies, and 12 inches by 2 feet 6 inches for the maincrop varieties; but in strong soil vigorous growers should be set in rows a few inches further apart. The depth of planting should also vary according to the kind of soil—the lighter the soil the deeper should the set be planted—4 inches is deep enough on heavy soils, and in light soils 6 inches is not too deep.

The Value of a Small Frame.—The possession of a small portable frame is a great boon to the allotment holder, for he is then able to raise seedlings of many kinds much earlier than in the open. Failing a proper frame, good work can be done with

an old window-sash and four lengths of planking set on edge; while even the sides of a large box placed over a small seed-bed and covered until germination takes place is a decided help. By such means, though of a makeshift character, earlier plants of Cabbage, Cauliflower, Brussels Sprouts, Leeks and Lettuce, for planting out, may be obtained. A second and, perhaps, smaller arrangement may well be utilised for a few gatherings of early saladings, if only a few Lettuce of the quickly maturing Cabbage type, planted thinly with Mustard and Cress sown between them. Many seeds will germinate much quicker if they are soaked for twenty-four hours in warm water before being sown, and this particularly applies to Peas, Broad Beans and all the Cabbage tribe. But seeds so treated must be sown soon afterwards, or their germinating power will be destroyed.

But for the severe frosts it would have been possible to buy autumn-sown Onions for spring planting quite cheaply, but the mortality has been great with these and also with young Cabbages and Lettuce. Any enterprising market-gardener who has sown early Cabbage, Cauliflower, Brussels Sprouts, Lettuce, Onions and Leeks in small boxes under glass for retailing at moderate prices to allotment holders during March will have performed a great public service and will do a good trade. Such plants, after having been duly hardened, may be relied upon to yield early crops of valuable vegetables.

Maincrop Onions.—As early in March as the ground can be properly prepared the maincrop Onions should be sown. This important vegetable well repays for good cultivation, so that before any seed is sown the ground should be well worked to make the surface soil fine. Before forking the ground which was thrown up rough at digging-time, it is a good plan to spread over the plot a good dressing of soot and wood-ashes, if these are obtainable. The Onion does best in a rich and moderately firm soil, so that the ground should be trodden and raked before the drills are made. The drills should be drawn a foot apart and not more than half an inch deep, as deep sowing results in long-necked bulbs, which do not keep well. Remembering that a good Onion is quite 4 inches in diameter, while the exhibition bulbs are very much larger, the seed should be sown quite thinly to avoid waste of seed as well as unnecessary labour in thinning. Good sorts for general use are Bedfordshire Champion and James' Long-keeping.

SALSIFY

Now that readers are sowing vegetable seeds, I should like to say a word about Salsify. It is not grown half as often as it should be, for gardeners do not realise what a pleasing change it is from the usual root crops. I recommend these readers to put in a row this year, and they will soon find out what a good vegetable it is.

Salsify is very easy to grow. All it requires is a deeply dug plot in a sunny position. No animal manure must be put in, but if the site of last year's Celery trenches can be spared, this is ideal. Sow in March in drills a foot apart and an inch deep, thinning out to 6 inches to 12 inches between the plants. Good roots can be obtained by transplanting the "thinnings" a foot apart each way into deeply dug land. All that remains to be done is to hoe the soil frequently during the summer, and in the late autumn lift the roots and store in sand, as for Carrots.

E. T. Ellis.

A VILLAGE OF WALL GARDENS

OURS is a Somerset village not much visited by horticulturists, because there is not much by way of castle or cottage gardens to tempt the latter-day horticulturist far out of his way. We never exhibit at shows. And the village itself, though it has a pronounced character of its own, has little beauty to speak of. The houses are sombre and dark, more like those of a Northern than of a Southern latitude. They have no gay gardens in front, the doors opening direct on the public road, which is edged on either side by a "crazy" pavement, raised sometimes as much as 2 feet above the road level. Our gardens accordingly are situated for the most part in the rear of the houses, enclosed by high stone walls, and so hidden away from the public eye, whereby, perhaps, the public eye does not lose so very much.

What our village excels in is not its gay parterres, but its unpremeditated wall gardens. Walls are plentiful in our village, of all degrees of openness and compactness, moistness and dryness; and wherever there is a wall, moist or dry, there there is a wall garden. Previous generations built the walls, and Nature planted them and is still responsible for their upkeep. We villagers therefore can take no credit for them. Most of us, indeed, never look at them twice, having other things to think of. Nevertheless, the wall gardens are there for those who are interested in that sort of thing. You cannot walk any distance in any direction in our village without skirting an old wall, which is sure to be overrun with a more or less interesting vegetation—flowers, grasses, Mosses, Ferns, fungi, lichens and Liverworts. The Mosses have a quaint way of following the interstices of the stones and pointing the joints, as the mason does with mortar; and sometimes they will cover the entire surface till the wall looks like a slab of green plush.

I do not pretend to have examined our wall gardens with any botanical minuteness, or to be able to give a complete list of our wall plants. Various Sedums are much in evidence, especially the common Stonecrop. It grows on the tops and sides of walls, in the spouting of houses, and on the heavy, stone-slabbed roofs, so that in summer you might think that the village had been plentifully dusted with Colman's mustard. The Corydalis, of a less crude yellow, though not so plentiful, is yet abundant on congenial walls. My own favourite among our wall plants is the Pennywort (Cotyledon Umbilicus), equally beautiful in its leaf and in its little pagodas of blossom. As a wall weed it is everywhere, and always luxuriant; yet it never looks weedy. If I had the genius of Wordsworth, it is not of the Celandine I should sing, but of the Pennywort. I have called this plant a "weed"; but if a weed is "a plant in the wrong place," the Pennywort is no weed, for it always keeps to its wall, never trespassing on flat, cultivated surfaces. The same cannot be said for another of our beautiful wall plants—a Geranium (lucidum, I think). It is a most prolific seeder, the progeny of a single plant draping a wall from top to bottom in no time. Its near relative, Herb Robert, is equally attractive and perhaps equally prolific, but though it is an ornament to any wall on which it grows, it is less a wall than a hedgerow plant.

There are many other flowering plants which lend themselves to the furnishing of our wall gardens. From the coping of some walls mats of Cerastium hang like powdered wigs. The wall of my poultry yard and a dozen other walls are sheeted with the Ivy-leaved Toadflax. Wall flowers clamber in tiers up the wall of the Ivy Bush—the old village inn. But of all the flowering plants that beautify our old walls, the most serviceable is perhaps the small-leaved wild Ivy, which rambles everywhere, wherever there is anything to cling to. It would be difficult to exaggerate in speaking of the beauty of these Ivies. In their ascent they fret the wall surfaces with lovely traceries; and when they reach the top and have nothing further to cling to, they spread out into beds of foliage, which bristle in the proper

AN UNPREMEDITATED WALL GARDEN. SIXTY YARDS OF CETERACH.

season, first with spheres of yellow blossom, and later with clusters of fruit.

I have already referred to the luxuriance of the Mosses on our walls, and the wealth of Ferns is equally remarkable. Not that there are many varieties of Fern in our neighbourhood. In that respect we are badly off. But the half-dozen or so that we do possess grow in generous abundance, and they happen to be species particularly suitable for wall gardens. The Hart's-tongue hangs from many a moist wall, but it is a Fern not so much of the wall as of the hedgerow, where it is very abundant. The Wall Polypody is common enough, but not too common. The Maidenhair Spleenwort is at home on our walls, and so is that typical wall Fern, the Rue Spleenwort. But the most characteristic and most abundant of our wall plants is the Scaly Fern (Ceterach officinarum). I do not know that many people would consider this a particularly attractive Fern, but anyone who saw it as it grows on our walls would admit, I think, that our village has other interesting things besides its old church and its ancient Ivy Bush Inn. SOMERSET.

P. J. REDOUTE

By THE REV. JOSEPH JACOB.

COLOURED floral illustration will for ever be associated with the famous name of Redouté. His title-deeds of celebrity are the minute beautifulness of his paintings, which somehow always remind me of the extraordinary detail which Gustave Doré invariably put into his pictures, as, for example, in the shavings beneath the carpenter's bench in "The Shadow of the Cross"; and, secondly, the success of his invention for printing in colour, which gives a lucidity and refinement to his delineations, making them something apart, something so different from the very best of what our modern processes turn out, even the Brussels printed pictures in the early years of THE GARDEN, which are, by common consent admitted to be among the best that have been done in the last fifty years. There is something about Redouté's foliage, whether it be in those sumptuous Brobdingnagian folios which are dedicated to the Queen of Flowers or in the smaller "La Botanique de J. J. Rousseau," published in 1805, wherein the common English Dandelion figures with a grace and charm which few would think possible in this troublesome garden weed. This particular plate must be something very near the high-water mark of refined colour printing or engraving; and I do not think that it is the spell of early acquaintance that alone might, but which I feel does not, give it its high value in my eyes.

P. J. Redouté, who came of a family of ecclesiastical painters, was born in 1759 at St. Hubert, a small town in the picturesque district of the Ardennes. Soon after his father's death, which occurred on December 23, 1776, he left home and went to Flanders. Here he became acquainted with the floral pictures of the great van Huysum. These made such an impression on his mind and so fascinated him by their beauty that he then and there decided to give up his life to the painting of flowers. Collections of his original work are rare. A large number were destroyed in the Louvre in the terrible days of 1871. I am sorry to say that there is not a single one in the Library of the Royal Horticultural Society as far as I have been able to discover. This should not be. The library of the greatest horticultural society in the world should not be so deficient, thereby obliging its members to seek abroad what they might reasonably think they ought to find at home. At Quaritch's, in company with the Editor of THE GARDEN, I recently saw a folio volume entitled "Trente Dessins originaux de Fleurs par J. P.* Redouté," with the name, I presume, of the maker of the wonderful hand-written title-page at its bottom, Pilinski Adam, and the bookplate of Leon Rattier ("Abbatia Janduriarum") on the inside of the cover; thirty exquisite paintings, done on vellum, each one bearing the well-known signature of Redouté, whom his contemporaries called the "Raphael of Flowers." In 1796 he invented a new method

GASTROLOBIUM CORDIFOLIUM.

One of Redouté's own paintings from the "Trente Dessins Originaux de Fleurs."

of engraving and colour printing, for which at an exhibition at the Louvre in 1819 he received a special gold medal. Afterwards, in 1825, he received the Legion of Honour from Charles X., and eleven years later the Order of Leopold.

It is from the numerous books which he illustrated with his new method of colour engraving that he is best known to-day. Some of these he did, as we colloquially express it, "on his own"; some he simply supplied illustrations for. In the first category are his two masterpieces, "Les Liliacées" and "Les Roses." These are huge folio volumes containing what was in Redouté's day the cream of these two very important families of flowering plants. Each of these was originally issued in various forms. There was one edition of "Les Liliacées" (1802–16), consisting of three "issues": (1) One of "80 livraisons de 6 planches à 40 fr." This is the one usually met with, as, for example, in the Liverpool Reference Library. (2) A sumptuous one of forty copies according to the preface (but only of twenty according to J. C. Brunet) on "papier colombier," retouched by Redouté himself. The Royal Horticultural Society's Library contains a copy of this issue, which is of the very highest importance and interest, inasmuch as it contains a note in Redouté's own handwriting stating that he had only touched up *eighteen*. (3) One single copy on vellum, made for the Empress Josephine, said to have cost no less than 84,000fr. According to Quaritch's catalogues, the market price of a fine copy of No. 1 (eight volumes) is from £100 to £120.

"Les Roses" also appeared in various forms and guises. "The Flower of Malmaison" must needs be one which claimed his pen and brush when among his pupils were Marie Antoinette, Josephine and Hortense, for it must be remembered that Redouté was teacher as well as painter. His "Roses" are even more sumptuous than his "Lilies," as if a larger amount of heart and care had been thrown into this superb work. Three editions were published. (1) The first (1817–24) comprised three issues: (*a*) A folio issue published in "30 livraisons de 6 planches" at a cost of 600fr., or 20fr. each part; (*b*) a large folio issue, also in "30 livraisons de 6 planches" at a cost of 1,200fr., or 40fr. a part; (*c*) five copies similar to (*b*), but with the plates in two states. Mr. Arthur Paul is the fortunate possessor of one, and, if I remember rightly, the non-coloured pictures are on a brownish paper and the coloured pictures on white. An ordinary copy of (*b*) (three volumes) with a single set of plates is worth about £120 to £130. (2) A second edition appeared in large octavo form in 1824–26. The title is "Les Roses par P. J. Redouté avec le texte par C. A. Thory." This is the edition of which Mrs. Earle writes in her "Pot-Pourri from a Surrey Garden," "even my small edition I look upon as one of my chief treasures . . . I cannot imagine how anyone has ever had the courage to publish the modern illustrated Rose books with pictures that look so coarse and vulgar in comparison with these delicate coloured prints." (3) A third edition (royal octavo) in three volumes appeared in 1828–29. It contains two portraits and 183 coloured plates.

With regard to the works for which our painter simply supplied the pictures, mention may be made among others, of "Plantarum Succulentarum Historia," by A. P. de Candolle (1799); the "Traité des Arbres et Arbustes que l'on cultive en pleine terre en Europe," by Duhamel du Monceau [1800–1819]; and various works of L'Heritier de Brutelle. Pierre Joseph Redouté died in 1840. The future will tell whether his illustrative work will ever be surpassed.

*A curious slip.—J. J.

PANSIES

A wreath of Pansies I send to you
Washed with the early morning dew;
The purple one for light and joy;
The golden one for fame's envoy;
The pale ones full of tender thought;
The dark with love and passion fraught.

DRUSILLA MARY CHILD.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Autumn-Sown Onions should now be transplanted where they are thicker in the rows than 6 inches apart. Do not bury the bulbs too deeply. Stir the surface soil between the rows to hasten growth, as from here the first supplies are obtained. The January-sown plants in boxes should be transplanted into other boxes or on prepared beds of soil in a cold frame to induce a stocky growth and prepare them for being finally put out early next month.

Peas.—Sow seed thinly of such maincrop varieties as Duke of Albany, Quite Content, Edwin Beckett, Goldfinder and Centenary in well-trenched soil; this is better than digging trenches and filling them with manure. Allow abundant space between the rows, which should run north and south. Growing a crop, such as Potatoes, between the rows of Peas is better than arranging the latter close together with an idea of economising space.

Globe Artichokes.—If the weather is favourable, remove the winter protecting material, digging in freely about the roots half-decayed manure to assist the plants to make vigorous growth, as the larger the heads the more succulent are they.

Brussels Sprouts.—The plants from the early sown batch should be transplanted into boxes, or, what is better, a bed of soil 3 inches thick in a cold frame with an inch of decayed leaves underneath, into which the roots will run and enable the plants to be lifted with a better ball of earth about the roots at planting-time.

Parsnips.—No time should be lost in sowing the seed in drills at least 15 inches apart, choosing trenched soil or where such a crop as Celery has previously occupied the ground. This encourages a free, tap-rooting medium.

Vegetables Under Glass.

Tomatoes.—Plants for a summer yield of fruit should now be transferred to 6-inch pots, and be given a position close to the glass to encourage robust growth. Plants still fruiting should be assisted to swell their last fruits by applications of liquid manure preparatory to their removal to make room for the successional batch.

Outdoor Tomatoes.—Too often the plants are much too small when put out, owing to neglect in sowing the seed early enough to obtain sturdily grown plants at least 1 foot high; more would be all the better. Sow seed of Sunrise or Holmes' Supreme in a temperature of 55°, afterwards giving the plants quite cool treatment.

Potatoes in Pots will require the addition of a little soil around the stems of the plants to cover any exposed tubers. Any space in the borders of Peach-houses where ample light is obtainable should be occupied with tubers of any good early variety. Cold frames, where they can be spared, should now be planted with Potatoes, as all the tubers will be needed.

Cucumbers are making good progress with such bright days. Do not syringe the plants too freely; this is liable to induce sappy growth. Stop the side shoots at the second leaf, allowing ample space for full leaf development. As the roots show through the soil, cover them with an inch or so of leaf-mould and loam.

The Flower Garden.

Propagating Bedding Plants.—No time should be lost in inserting cuttings of such subjects as Heliotrope, Lobelia, Double Petunia, Iresine, Alternanthera, Coleus, Salvias and Geraniums. A quick bottom-heat will hasten root formation if air is excluded from the cuttings. Asters of all sections should be sown at once in cool quarters. The single-flowered forms are delightful for providing cut blooms and are so simple to grow. Single Petunias are easily raised from seed and are profuse in flowering. Salpiglossis seed sown at once would make good plants with but a minimum of labour.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onion Sets.—These may now be planted out when the ground is in a favourable condition. The rows should be 1 foot apart and the sets 5 inches apart in the rows. Where there is a difficulty in growing Onions from seed, these prove an excellent substitute. They are most satisfactory for early use, and generally yield a fine crop of bulbs.

Shallots.—These should also be planted now in a similar manner to the above, but allow about 9 inches between the bulbs in the rows in this instance. Shallots are esteemed for early use, and are always in demand for flavouring.

Mushrooms.—A good and abundant supply of Mushrooms may be grown in a temperature of 45° to 50°. See that a steady temperature is maintained, as fluctuating heat generally results in failure.

Herbs.—Many of the perennial herbs should be lifted and replanted every three or four years, and now is quite a suitable season to have the work done. Mint especially enjoys this attention, as the growth is inclined to become stunted if left too long undisturbed. Failing transplanting, a suitable top-dressing should at once be given. Tarragon, Thyme and Marjoram also transplant well now; while a fresh bed of Sage should be made up occasionally, either from seed sown indoors now or from cuttings inserted in a frame during autumn.

Plants Under Glass.

Chrysanthemums.—Where cuttings of these have rooted freely, they ought now to be transferred to larger pots and placed in a cold pit or frame. Shade for a few days if the weather is sunny, water carefully, and encourage hardy growth by admitting air freely during fine weather.

Primula obconica.—A sowing of this serviceable plant should now be made, as a long season of growth suits it well, and large, finely furnished specimens may be had in flower during the autumn months. Cover the seed very lightly, and place a piece of glass over the seed-pan till germination takes place.

Tuberous Begonias.—Varieties of these for pot culture should now be started. If accommodation is limited, start them in boxes and repot after growth has commenced. Water sparingly for a time.

Hybrid Calceolarias.—See that these do not become potbound before giving them their final shift, as they are inclined to push out their flower-spikes prematurely if root action is checked. A suitable compost in which to repot is one part of good loam, half a part of leaf-mould, and a quarter part of silver sand, with a dusting of an approved fertiliser. When potting, see that the soil is not pressed too firmly, otherwise the roots will not run freely.

Forcing Shrubs.—Bring in further supplies of Azaleas, Wistarias and Deutzias to keep up the display, timing a number suitable for Easter decorations. Any that have passed out of flower should be placed in a temperate house to complete their growth. Some may require cutting back, but one's own judgment will guide them regarding this. Syringe morning and evening, as this helps to keep down aphis and encourages the hardwoods to break freely.

The Flower Garden.

General Work.—Owing to the severe frost experienced in our district during the last month, outdoor work has been greatly retarded; but a thaw has now set in, and by the time these notes appear in print it is hoped that the ground will be in a suitable condition for working. Pruning and tying of climbing plants on the pergolas and walls is now completed, so that any beds or borders still requiring digging should be gone over when the weather is fine. Where the beds are filled with spring-flowering plants, stirring with a small hand cultivator will be to their advantage, care being taken not to disturb any bulbs that may be breaking through.

James McGran.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

LEAVING NEWLY PLANTED FRUIT TREES UNPRUNED

THIS question has been so long before us and so widely discussed that there is really not very much that is fresh to be said upon the subject. I suppose none of us can do more than record our experiences, and after forty years of work among fruit trees I venture to support Mr. Molyneux and to differ from Mr. Ponting.

I well remember the time when this subject was brought before the fruit committee of the Royal Horticultural Society, and at a largely attended meeting, comprising some twenty to thirty members, the late Mr. John Wright, V.M.H., and I were in the minority, as we were the only members who advocated the pruning of trees the first season of planting. That was some twenty years ago, and I venture to think that if the matter were to be discussed again to-day, the positions would be reversed. We *might* find two advocates for non-pruning, but I feel sure that the large majority would be in favour of pruning.

One should, I suppose, be able to give a reason for the faith that one has, so I would first of all refer to the well-known experiments undertaken by Mr. Spencer Pickering, F.R.S., on the Duke of Bedford's Experimental Fruit Farm at Woburn. In the fifteenth and last report Mr. Pickering refers to several previous reports upon this subject, and says: "That the branches of a tree after transplanting should be cut back to one-half or one-third of their length *is not questioned* [the italics are mine], for the inevitable injury which occurs to the roots when a tree is lifted requires a corresponding curtailment of the branches, so that the balance between roots and branches may be maintained."

I do not propose to transcribe Mr. Pickering's report, but, briefly, all his experiments go to prove that trees do better when pruned the same season as they are planted, and that it is immaterial whether this pruning be done in December or deferred until April, though a very slight advantage rests with the later date. I always advise that this pruning should be done when the buds begin to swell, as one can then see which buds are likely to be strong, and it is generally a more pleasant operation for the pruner than it would have been in the earlier months of the year. It should be noted that trees pruned later than April suffered much in consequence.

Now, as to the trees which were left unpruned for a year, Mr. Pickering says they remained in an unhealthy and stunted condition, leaf size being 24 per cent. below the average; the second season, when pruning had been done, they made very vigorous growth; but at the end of five years there was little or no difference in size between the trees pruned at the time of planting and those left for a year unpruned, but the latter were less fruitful.

There is, however, a more important aspect of this matter, for up to now the evidence presented seems to say that there is no vast superiority of either system over the other. The point is: What kind of wood has one to prune the second year when trees have been left unpruned? The unpruned tree makes practically no growth, but the buds put out a small rosette of leaves with, in most cases, a fruit-bud. Now there is a great temptation to amateurs, whose besetting sin is that they

want fruit at once, to leave the trees unpruned and let them carry a crop, in which case the trees, whether standards or bushes, are ruined; and how many hundreds of such ruined trees have I seen. On the other hand, what is the man to do who wishes to prune? Most of the buds which he should prune to are fruit-buds, quite unfitted to make good strong shoots which he needs for the formation of his tree, and the only thing he can do is to take off the fruit-bud and trust to the development of the adventitious buds which are found at the base of the fruit-bud. This will be a way out of the difficulty with many varieties, but there are a number, such as, for example, Bramley's Seedling, Newton Wonder and Worcester Pearmain, in which the lower buds will not break when the shoot has been left too long, and there, I fear, he will be in difficulty and will not bless the exponent of non-pruning.

Lowdham. A. H. PEARSON.

I UNDERSTAND that the non-pruning section of fruit-growers do not prune the same season as planted because the tree would receive two checks. This point is not quite clear to me, for I do not realise that pruning is a check to a fruit tree; rather the reverse. I find that the more a tree is pruned, the more vigorous it grows. My experience regarding the pruning of newly planted trees is that if they are pruned in the April or May following the planting, the object of obtaining a well-shaped tree is attained and the loss of a season's growth avoided. I would like to add a little advice to those readers not well experienced in fruit-growing, and that is that they should not be in too much of a hurry to get their young trees to bear fruit. Build up a good, sound, clean-growing tree first, and better fruit will be produced in after years. This, I think, is as important as the pruning of the trees. A. D. TURNER, N.D.H.

I HAVE carefully read the criticism page 57, on my article, issue January 27, and fail to find any portion which adversely criticises the advice I gave in a manner condemnatory of my practice and advice to others. I do not think gardeners as a rule by pruning a newly planted tree in February expect fruit blossoms in May. I give them credit for a better grasp of the subject than that. Yes; the first essential in newly planted trees is growth, which will be obtained readily the first season if the trees are pruned as I advised, without waiting until the root system has been restored. This takes place readily enough when the pruning reduces the number of buds (eyes) the trees have to support, as compared with their weakened condition when the shoots are left intact until the "root system has been restored." Experience proves that the pruned trees make much more vigorous growth than those left unpruned; while waiting for the "root system to be restored" valuable time is wasted. What pruning does Mr. Ponting allude to when he says, "If this is put in the soil in the autumn it will push out leaves"? Surely not an Apple cutting until roots are in formation. The "established" tree giving fruit-spurs the following season is what I wish to avoid. I have seen too many trees crippled in their growth to allow me to encourage such a method of management. This was the cause of my penning the advice on January 27. I cannot possibly agree with Mr. Ponting where he says, "Young standard trees never require to be pruned except to take out crossing branches." If they are not pruned at first when received from the nursery with, say, four shoots to each, when will the number of branches increase to make an area sufficient for a large tree? as it is well known to practical men that non-pruned trees are slow to multiply their shoots for future branch formation. I fear Mr. Ponting has had unusual experience with trees sent by rail when he says the trees will have most of the outer buds damaged. Surely this is contrary to practice, and not in accordance with the great care nurserymen usually display in their packing. They do not send trees without an outer covering. Even if so, those with leaves on would protect the buds. Dormant buds, too, would receive no injury, even if there was no packing about them. E. MOLYNEUX.

OBITUARY

GEORGE MASSEE, V.M.H., F.L.S.

WE learn with regret of the death of this well-known botanist, which occurred at Sevenoaks on

THE LATE GEORGE MASSEE, V.M.H., F.L.S.

February 17 after a brief illness. Mr. Massee was a Yorkshireman by birth, and was sixty-seven years of age. The son of a farmer, it was intended he should follow in his father's footsteps, but botany and drawing plants, which was at first more of a hobby, eventually claimed his undivided attention. The deceased gentleman was appointed Principal Assistant (Cryptogams) in the Kew Herbarium in 1893, a position he held with distinction until 1915, retiring under the age limit on March 31 of that year. For many years Mr. Massee was a leading authority on plant diseases, his "Text-book of Plant Diseases" being well known. The funeral took place at Richmond Cemetery on February 21, amid every token of respect from his many friends at Kew.

ANSWERS TO CORRESPONDENTS

KITCHEN GARDEN.

WIREWORMS ON POTATO LAND (*E. A.*).—Constant cultivation with the hoe is one of the best means of ridding cultivated land of wireworms, and, next to that, perhaps the sowing of Mustard. Superphosphate also protects plants to some extent from this pest, and may be used in the furrows in which both corn and Potatoes are to be planted. Birds such as rooks, lapwings, gulls, starlings and robins are all useful, as they devour soil grubs, such as the wireworm, with avidity.

GROWING POTATOES ON ROUGH GROUND (*Miss F.*).—If you have sufficient labour—and apparently you have—the best plan to adopt is to bastard-trench the ground. This is done by digging a trench 1 foot to 18 inches and forking up the bottom soil, leaving it at the bottom of the trench. You should then proceed to skim off the top layer of grass and, placing it grass downwards at the bottom of the trench, then turn over the next spit of soil and place it on the top of the grass Break up the bottom soil and leave it at the bottom of the trench, and so proceed until the whole of it is done. As the work proceeds it will be a very good plan to dust the soil over with quicklime. By applying it now it will not have any injurious effect. The Potatoes should not be planted until about the end of March. Do not use gas-lime; this is certainly injurious, although it is very effective in disposing of soil pests, such as wireworms. If you have not the labour to dig the quarter of an acre, then we strongly advise you to take the advice of the local farmer and have it ploughed first of all, at the same time laying the turf at the bottom of the furrows. You should apply wood-ashes and soot at the time of planting, and if you can incorporate with the soil a fair quantity of well-rotted manure and leaf-soil, it will have a remarkably good effect.

FRUIT GARDEN.

APPLE COURT PENDU PLAT SHRIVELLING (*E. S. C.*).—A too common fault of this overrated so-called "Wise" Apple. The only remedy we can suggest is to give the surface of the soil over the roots a mulching of rich, well-decayed farmyard manure at the end of March, and also an occasional good soaking of liquid manure during summer and autumn. Should this treatment fail, then the best thing to do will be to bend the tree down next winter and graft it with another variety in spring.

INJURY TO APPLE TREES (*Col. L. T.*).—The swellings on the Apple shoots are undoubtedly the result of the attack of woolly aphis of which you speak. Winter treatment consists in forcible spraying with caustic soda, 2lb. to 10 gallons of water, so as to force the spray fluid into crevices, wherein the woolly aphis may be sheltering, paying special attention to portions of the trees near the ground. The summer treatment is the use of methylated spirit and the forcible spraying with paraffin emulsion of summer strength. Ordinary light spraying has very little effect.

MISCELLANEOUS.

TO STAIN BAMBOO STICKS GREEN (*F. W. M.-J.*).—We do not know the method of staining Bamboo sticks green, but they can be readily painted that colour. One point to bear in mind, if the stakes are required for supporting plants, is to take care that the green is not of too glaring a tint, as if this is the case they do not harmonise with the green of the foliage. This mistake is often made. A sober neutral tone of green is the best.

SALT FOR DESTROYING NETTLES (*H. A.*).—We are sorry we cannot help you in this matter. We cannot lay hands on any statements concerning the effect of salt upon Nettles. It is a fact, however, that Nettles flourish best where human refuse has been deposited, and that is bound to contain much salt, so that they are unlikely to be very sensitive. Some plants are; Roses, for instance. A heavy dressing of salt applied shortly before a shower will, of course, kill any weed, not excluding Nettles.

BASIC SLAG AND OTHER MANURES (*S. F.*).—Basic slag is a good manure for all kinds of vegetables, but is best applied in autumn at the rate of about 3oz. to 4oz. to the square yard. Asparagus is not very likely to benefit by it. It will not take the place of farmyard manure, and your best plan, if that cannot be got, is to use all garden refuse (except parts of diseased plants, which should be burned) for digging in. As soon as you get the ground clear in August of early crops, sow Mustard and dig it in in the autumn. Hop Manure is often spoken of as being good on such soils as yours, while shoddy and guano are useful substitutes for farmyard manure.

DEPREDATIONS OF A RABBIT (*A. W. S.*).—It is probable that by placing a trough of poisoned grain near the point that the rabbit frequents you might be able to destroy it, although we do not know that such an act is amenable to law for you would probably poison numerous birds as well as the rabbit. The best plan would be to set someone to watch for it in the evening just about dusk. A good shot ought then to be able to shoot it or a good dog might catch it. At any rate, it is a matter for local conditions to cope with, and it is very difficult to suggest a means of destroying one rabbit without injuring other animals, as you say that you have tried all the recognised methods of destruction.

TO KILL THE STUMP OF AN OLD PEAR TREE (*C. C.*).—You can kill your Pear tree by removing a wide circle of bark from near the base, taking care to cut deeply into the sapwood. The work should be done at once. At the same time you might cut through any strong roots that are accessible.

MANURE FOR BULBS (*Miss L. M. S.*).—Bulbs benefit most from an application of basic slag or bone-meal just before they are planted in autumn. Fresh farmyard manure is inadvisable at any time; but if particularly large bulbs are desired, a heavy manuring of the ground before an earlier crop, such as Potatoes, may be given with advantage. Bulbs like Narcissi will grow for many years without manuring and flower well, provided the foliage is not removed before it has died down naturally. Crocuses flourish best, perhaps, where cow-manure has been placed some distance below where the corms are planted, and in any case manure should never be placed where the bulbs come in contact with it. The writer well remembers the dire results that followed his first efforts at Narcissus growing, when in youth and ignorance he neglected this precaution which common sense should have taught him.

NAMES OF PLANTS.—*W. W.*—1, Euphorbia splendens (stove treatment); 2, cannot identify in this condition; 3, a Bromeliad (grow in a stove), probably a Tillandsia; 4, probably Barosma lanceolata, will do in a cool greenhouse.——*S. W.*—Galanthus Elwesii.

NAMES OF FRUIT.—*R. G. C.*—The Pear is known in the market as Brown Beurré; Apple Wellington or Dumelow's Seedling; Apple Malster may, we believe, be obtained from the King's Acre Nurseries, Hereford.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY

THE fortnightly meeting held on February 27 was much the best of the present year, a greater variety of plants being displayed. Bulbs grown in fibre from Messrs. Bath were exceedingly well shown; hardy plants, particularly the bulbous Irises from Mr. Herbert Chapman, were in charming variety; Orchids made a goodly show; while the Savoys from Wisley demonstrated the exceptional hardiness of this valuable type of winter greens.

Floral Committee.

Present: H. B. May, Esq. (chairman), and Messrs. G. Harrow, J. Green, G. Reuthe, J. W. Moorman, J. Heal, W. Howe, R. W. Wallace, Clarence Elliott, A. Turner, J. Dickson, C. Dixon, J. Jennings, T. Stevenson, H. Cowley, C. E. Pearson, W. P. Thomson, E. H. Jenkins, C. R. Fielder, W. J. Bean, J. Hudson and E. A. Bowles.

A most instructive and useful exhibit in the shape of Narcissi grown in bowls of fibre came from Messrs. R. H. Bath, Limited, Wisbech, the whole being particularly well grown and flowered. One of the prettiest was W. P. Milner, a dwarf grower and creamy white in colour. Golden Spur, princeps, Victoria, Haarlem (a handsome pale bicolor with fine reflexing crown), Sir Watkin, Lucifer and odorus rugulosus (double Jonquil variety) were among the best.

Mr. Clarence Elliott, Stevenage, Herts, contributed a well-flowered batch of Saxifraga Burseriana in pots, the quite small plants teeming with the snowy blossoms the beauty of which is enhanced by the rich scarlet stems and calyces. Rhododendron præcox was also shown.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, staged bunches of market Daffodils, together with Snowdrops, Christmas Roses and Winter Aconites. The charm of the lot centred, however, in Iris reticulata, whose rich royal purple, gold-crested flowers render it unique.

Messrs. J. Cheal and Sons, Crawley, showed the crimson Primrose Miss Massey uncommonly well, together with those of blue and allied shades of colour. All were pot grown, thus demonstrating their utility for the cold greenhouse at this season. Rhododendron præcox in pots, with the early forcing sort, R. Jacksoni, were also on view.

Messrs. Allwood Brothers, Hayward's Heath, exhibited Carnations very finely, some two dozen vases being filled with excellent flowers. The novelty of the occasion was Eastern Maid, an addition to the fancy heliotrope class, and in colour a decided gain on its predecessors. It is also fragrant. Salmon Enchantress was particularly good, also White May Day and Philadelphia, a mixed vase of the two showing to considerable advantage. Bishton Wonder, Mary Allwood, White Wonder and Wivelsfield White were others of note.

Many vases of Violet Princess of Wales were shown by the Misses Allen-Brown, The Violet Nurseries, Henfield, Sussex. The flowers were of exceptional size and good colour.

A collection of alpines and shrubs from Mr. G. Reuthe, Keston, contained many Saxifrages, notably S. Burseriana and S. Grisebachii (showing well for flower), Gaultheria tricophylla, Iris alata, Eranthis cilicicus, Leucojum vernum carpaticum and Crocus Imperati præcox were among flowering plants. Of flowering shrubs the new white-flowered Rhododendron moupinensis was the most important. It is dwarf, hardy and freely flowered. Hamamelis arboreus and H. Zuccariniana were also shown.

Messrs. H. B. May and Sons, Edmonton, contributed a miscellaneous collection of hardy and greenhouse Ferns, together with Cyclamen in variety, Cinerarias and other plants in flower. Quite conspicuous in the midst of all were well-flowered examples of Columnea magnifica, the vermilion scarlet and orange flowers very profusely borne. Of the Ferns, Pteris edmontoniense, Davallia Mariesii, D. Lorrainii and Asplenium erectum, a nearly hardy tropical kind of some utility, were shown.

Mr. J. C. Jenner, Rayleigh, showed stands of Carnations, a central one of Mary Allwood being most attractive. Snowstorm was also good.

Carnations from Messrs. Stuart Low and Co., Enfield, were in considerable variety and beauty. Quite the best of the batch was Eileen, a fine salmon. Mrs. Mackay Edgar, Triumph, Philadelphia and Red Ensign were also good. Cyclamens were finely represented in white, crimson and salmon shades, the new variety, Cherry Ripe, gaining an award of merit.

Fruit and Vegetable Committee.

Present: J. Cheal, Esq (chairman), the Rev. W. Wilks, and Messrs. E. A. Bunyard, A. Bullock, J. E. Weston, A. R. Allan, J. C. Allgrove, P. D. Tuckett, A. W. Metcalfe, W. H. Divers, Edwin Beckett, W. Bates and W. Poupart.

The most interesting exhibit in this department was that of Savoy Cabbages from the Wisley trial, varieties that have proved of undoubted hardiness despite the trying season. Of Ormskirk three types were on view, and, though variable in size, all demonstrated great hardiness. These came from Messrs. Nutting, Messrs. Sydenham, and Messrs. Alex. Dickson and Sons. New Year (Sutton) Selected Green Curled (Dobbie) and Late Drumhead (Nutting) were others of merit.

Messrs. J. Cheal and Sons, Crawley, showed a few dishes of Apples, of which Egremont Russet, Boston Russet, Cox's Orange Pippin and Adam's Pearmain were notable examples.

Orchid Committee.

Present: Sir Jeremiah Colman (chairman), and Messrs. J. O'Brien, W. Bolton, S. W. Flory, A. Dye, W. H. Hatcher, T. Armstrong, F. J. Hanbury, E. R. Ashton, R. A. Rolfe and R. Brooman White.

Messrs. Charlesworth and Co., Hayward's Heath, contributed a delightful lot of Odontiodas and other Orchids. The chief were Odontioda Brewi (maroon), O. Bradshawiæ (orange red), O. Lambeauiana, O. Diana and O. Madeline (tawny orange and gold). Odontoglossum L'Aiglon var. majesticum is a lovely dark-blotched variety on a pure white ground.

Messrs. Flory and Black, Slough, had Cattleya Blackii alba and Brasso-Lælio-Cattleya Harrisonii, among others.

Messrs. Sander and Sons, St. Albans, showed Cattleya Snow Queen, Brasso-Cattleya André Maron var. amabilis, together with Miltonias and Odontoglossums.

Messrs. Armstrong and Brown, Tunbridge Wells, showed the intensely coloured Odontioda Joan Broadlands variety (award of merit), O. Armstrongii var. Jupiter, O. Madeline (chestnut red), Brasso-Cattleya Mrs. J. Leeman (whose large, spreading lip is of a lovely pale rose) and Cymbidium insigne album (award of merit), a very beautiful variety.

Professors and Allotment Crops.—That doctors differ we all know, but that experts in gardening should disagree about the commonest produce is enough to cause dismay. Mr. A. P. Laurie writes to the *Times* to say that the only vegetables worth growing are Peas and Beans, to which Professor Keeble retorts that "Peas and Brussels Sprouts are luxury crops, and should now be grown only in small breadths or not at all." Both of these adepts enunciate views that the practical people, who themselves, their fathers and their forefathers have cultivated food plants in their gardens for generations, would describe as "clotted nonsense." Mr. Laurie missed out what the working-man regards as the most feeding of all vegetables—the tear-producing Onion. If there is no meat to be had, give him a large Onion and a slice of bread, and he will not consider he has a bad lunch, nor will his work flag after it. Nor would Professor Keeble, if he preached from now to the end of time, convince those sons of toil, who judge of food by the strength it imparts to them, that Peas do not form a most nourishing diet; while of the Sprouts it might be said in these days of dear and scarce Potatoes, "Blessed is he who hath his garden full of them!" They occupy a most important place in the economy of the poor.—From *Country Life*.

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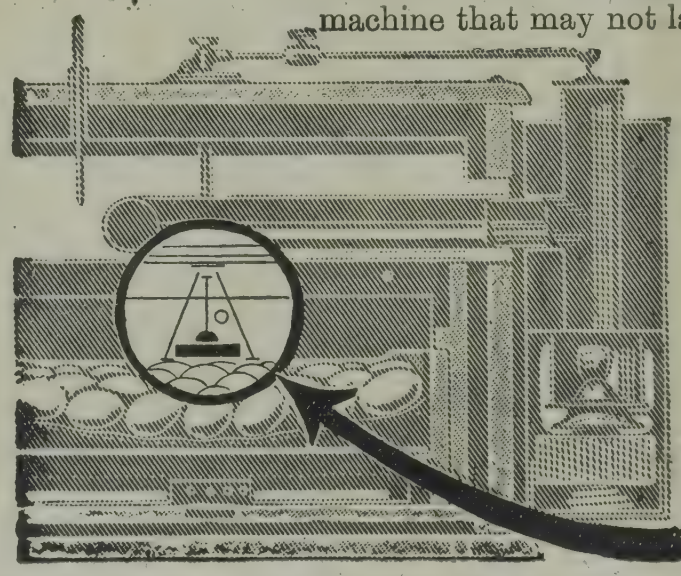

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

AIDS TO INCREASED EGG-PRODUCTION

IF full egg-baskets are to be obtained, the pullets or hens must be always kept in *laying condition.* This is a point the majority of poultry-keepers overlook. Just as there are standards of fitness or condition for the athlete, the pugilist, the racehorse and the greyhound, so should there be one for the laying hen. It is only when the line of perfect fitness has been reached that the best results can be expected from either human or animal!

The Over-Fat Layer.—If the racehorse or the greyhound carries a surfeit of fat, it will not produce its best performance, as you will readily agree. In like manner the hen that possesses a surfeit of internal fat cannot possibly break records in the egg-race. The internal organs of a laying hen may be likened to the works of a clock; badly treated they quickly get out of order. If a hen is allowed to get over-fat, the internal organs become encircled in layers of fat and the works go wrong, resulting in poor egg-supplies. The oviduct and ovary—the laying organs—require absolutely free play in order that the eggs will ripen rapidly and continuously. If the walls of the oviduct—the channel down which the yolks (or eggs) pass after leaving the ovary—are pressed in by layers of fat, small and misshapen eggs will be produced. In time, too, the oviduct may be so indented and encircled by the masses of hard fat as to render the passage of eggs impossible. Decomposition of the yolks sets in and poisoning ensues.

Poor Egg-Results.—In the majority of cases poor egg-results may be put down to the over-fat condition of the laying stock. Regular handling of the hens at night as they are roosting is to be strongly recommended, since, by taking this precaution, the owner can tell at once which birds are too fat and which ones are in poor condition. It is, indeed, very difficult to tell if the birds are too fat except by such handling, since the surfeit is inside. Over-feeding, lack of scratching exercise and the over-use of heat-producing foods are among the causes of excessive internal fat, so that it will be seen how important a part feeding and management play in successful egg-production. One must not confuse soft and pliable internal fat with *solid* fat, since during the winter months a thin lining of fat inside the hen and next the outer skin is desirable This soft fat is of the "meltable" kind, and during very cold weather acts as a reserve base from which the layer can draw for energy and warmth. It is the solid "bladder-of-lard" fat, to use a poultry-fancier's phrase, which must be guarded against, and in over-fat hens the abdominal cavity will appear hard to the feel.

Racy Condition.—The laying stock, therefore, to give the best egg-results must be kept in a racy, laying condition. There must be scratching exercise *ad lib.* to correct any fault of over-feeding, and where such heat-producing foods as maize, barley-meal, barley, potatoes, maize-meal, &c., are given they must not be used to excess. If it is found that a flock of layers are on the fat and non-productive side, the birds should be put on a scratching routine at once and their rations be somewhat reduced, while fattening foods can be omitted for the time being. I have found it quite a good plan to allow the birds to have full liberty on free range for a time and on a moderate diet. By adopting this plan the hens are made to search for a good part of their rations and "live" on their store of fat. The Glauber's salt treatment is to be strongly recommended for over-fat hens.

A Stock-Medicine.—By dissolving 8oz. of Glauber's salts in a quart of boiling water the poultry-keeper has a cheap stock-medicine that will prove a decided aid to increased egg-production. The correct dose is a dessertspoonful of the mixture in each pint of the drinking water, or in the water (in like proportion) used to soak the soft food. This medicine should be given twice or thrice a week for a period of not more than a fortnight at a time. The mixture is very beneficial, since it acts directly on the liver, "flushing" the latter and putting it into proper working order. If your hens are not laying well or are known to be too fat, the above treatment is recommended, and all stock greatly benefit by its adoption in spring and autumn.

The Liver.—The hen's liver is, I suppose, the hardest-worked organ in her body, and, peculiarly enough, it is the first to suffer when anything goes wrong elsewhere inside the "clock." If the liver is out of order, the bird affected mopes and its comb turns dark. The Glauber's salts, therefore, touches the spot desired, and with excellent results. It sometimes happens that the surfeit of fat attacks the outer walls of the gizzard, preventing that highly important organ from performing its functions. Occasionally, too, the liver itself becomes bedded in layers of fat, so that the importance of the subject here dealt with cannot be over-estimated if there is to be an increase in egg-yield.

The Bully.—There is another great advantage accruing from the periodical handling of the layers as they are roosting at night. In a flock of hens there are always a few that get out of condition, owing to the bullying tactics of one or more of the occupants. These poor-conditioned birds can be singled out directly they are noticed, and fed separately into condition again. Successful egg-production is made more certain where every individual in the flock shows its best performance by way of eggs. To make this possible a close study of the birds is essential, and these small details will receive due attention from the man who is out to succeed and who has his heart and soul in his poultry side-line or business. In every flock of layers there is a bully, and she is best removed if she cannot be permanently corrected, since so many of the other hens will suffer. The culprit is invariably the worst layer, and it is more profitable to lose her eggs than those of the several birds affected,

Curing the Bully.—The presence of the bully can easily be detected. Watch the fowls at feeding-time and look for the bird which chases all the others away. Keep an eye on the hen that commandeers the drinking fountain directly after feeding. This is the culprit, and at roosting-time, too, she will quarrel with all her sisters. Away with such a disagreeable bird that, in laying her one egg a week, takes full charge of the nests and retards egg-production in every possible way. Such a bird I would place with another flock of hens that were strangers to her; she would in turn be bullied into submission until she settled down agreeable. If only one pen of birds was kept, I would resort to my favourite plan of leg-tying. To one leg fasten a short length of thick string and tie the latter to the other leg, leaving a little loose between the legs. This arrangement will not prove a disadvantage in scratching, roosting or walking, but will prevent the bully from *running*, and the bullied ones will take heart and be happier with their lot. If the treatment proves a cure, the string can be cut.

Foundation of Mash.—If plenty of eggs are desired, the poultry-keeper must feed for them. This is where so many go astray! They try to adopt cheap menus, but it proves at the expense of egg-production in the long run. In preparing a mash it is very advisable to have a proprietary food or meal as the *foundation* of the soft food. Bran, middlings, house scraps, boiled vegetables, &c. can be used to cheapen the whole, but these should be in all cases supplementary to an approved proprietary meal or food. The object of the poultry-keeper is, in the majority of cases, to get the maximum output of eggs from each layer in the minimum length of time. A hen will lay eggs if she is fed on bran and oats, but the fact that she produces eggs is no criterion that bran and oats constitute an ideal mixture. No; it is penny wise and pound foolish to adopt *in toto* cheap feeding! By all means make full use of offals, vegetables, scraps, &c. but let there be a sound foundation to every mash.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*

ATTENDING TO THE BROODY HEN

SELECT as quiet a spot as possible when setting a broody hen. The best results are obtained when the broody cannot see or hear the other birds, although every poultry-keeper cannot arrange this. A quiet outhouse will be in every way suitable as accommodation for the sitting-boxes.

Making the Nest.—As regards the preparation of the nest, first obtain a good supply of soft soil and put it through a fine sieve to remove any small stones that would be likely to protrude and break the eggs. Place a good depth of the soil into the nest-box and scoop out the centre, forming thereby a shallow, saucer-shaped hollow. Pack the corners very tightly, and well beat down the soil before placing hay on top and around the sides of the nest. I like to use a sprinkling of chaff in the centre of the nest, or hay that has been rubbed soft in the hands. Having sprinkled the nesting material with insect powder, the nest is ready for the sitting of eggs.

Sitting the Hen.—I prefer an odd to an even number of eggs, since the former seems to make up into a better circle. The exact number of eggs must depend, of course, on the size of the broody hen selected and the quantity of fluff she carries, also on the season of the year. Far better, however, is it to put too few than too many eggs under a hen. A sitting hen is usually nervous, and gentle handling is imperative. Night-time should be selected for sitting the broody, since, when darkness has drawn in, fowls seem stupefied and will consent to be handled better than in the daylight. First well dust the bird with insect powder, and then (by candle light) give the hen a good feed of maize. Meanwhile, do not let her see the eggs she is shortly to be entrusted with. Having finished her meal, let the light shine upon the nest of eggs and watch events.

Settling Down.—Temperament in broodies varies. Some hens will gently strut up to the nest and make themselves "at home" on the eggs without any fuss. Other broodies will resent the strong light, which must be shaded somewhat. If the hen does not appear to understand what is expected of her, gently guide her towards the eggs, when it will be found that she will walk on to the nest of eggs. Do not unduly excite the broody or make any rapid movement likely to upset the bird. After a few minutes the hen will settle down on the eggs, when the lid of the sitting-box can be carefully closed. Do not trust to guesswork, but chalk on the sitting-box the date the hen was set, the number of eggs and the breed, and the day chicks may be expected.

Management.—On the day following the evening on which the broody was set do not visit the hen. This will give the eggs a good start. On the morning of the second day open the door of the sitting-box, having previously scattered some maize on the ground and filled the drinking-vessel with clean water. It is much better to attend to this feeding before the broody is released, as the scattering of the grain and the rattle of the food bucket would otherwise make the hen excited. The only other requisite is a box of ashes in which the hen can dust herself. When the lid of the sitting-box is opened, the hen will gently strut out, although some hens may have to be carefully lifted out. If the latter is necessary, use both hands, and with the thumbs keep the wings outstretched so that no eggs will be dragged out of the nest.

The Morning Outing.—While the broody is feeding, close the lid of the box so that the sight of the eggs will not make her anxious to get back again. On very cold mornings a piece of flannel can be placed on the eggs during the first few days of incubation. Broodies require to be taken off once a day—in the morning for preference. The length of time allowed for the outing should be about five minutes for the first week, ten minutes the second, and fifteen minutes the third week. Be guided by the outer elements and the "feel" of the eggs, but be sure to keep eye on the watch. *Tempus semper fluit!* Maize exclusively should be given to the broody during the period of sitting, as this grain is heating and keeps up the body warmth. Soft foods must *not* be given.

Broken Eggs.—Should any eggs by chance get broken, it is advisable to wash the remainder with a piece of flannel that has been dipped in *warm* water, afterwards wiping them dry. Remake the nest if necessary, but the operation must be attended to quickly. If the hen should pierce the shell of an egg with her toenail, a piece of stamp paper should be fixed over the aperture. An egg so treated will often hatch off safely. It is advisable to count the eggs each time the hen is attended to, since any additional ones must be removed. It is quite common for a broody hen to lay an egg each day during the early period of hatching, and the operator must, of course, be able to detect the same. The original eggs should be marked in some way to make this possible.

INTERIOR OF INCUBATOR HOUSE.

This illustration depicts the well-arranged incubator room on the Claydon Farm, Lechlade, Glos., the property of Mr. G. B. Metcalfe.

THE INCUBATOR ROOM

DO not run away with the idea that an incubator-hatched chick is weaker than a hen-hatched one. This fallacy has long since exploded. The stamina of a day-old chicken depends upon the feeding and condition of the parent stock more than the mode of incubation.

The Incubator House.—Any suitable outhouse can be converted into an incubator house. An even temperature is desirable, and there should also be an absence of any vibration such as would be caused by trains, heavy vehicles and the like. Many poultry-keepers who have only cellars or spare rooms in the house available make full use of the same for the accommodation of their machines, and with highly satisfactory results. The main point is to get a good machine, and then the chances of bad hatches are reduced to a minimum.

Temperatures.—It is advisable to try to work the temperatures inside the incubator and in the incubator room in co-operation. I prefer to adopt the following plan: If the temperature in the incubator room registers 60°, I run the machine at 103°; if 50°, at 104°; and if 70°, then at 102°. Where several machines are accommodated in the same house, it is quite an easy matter to follow the plan recommended. If no cellar or room is available, it will be quite a simple matter to convert an outhouse into an incubator shed, or a special structure can be erected.

A Special Structure.—If a special shed is erected, the best plan is to have a double roof and walls, the space between being packed with shavings or straw. This arrangement will ensure an even temperature inside the house. The latter must be well ventilated, and there should be a window in the front on the southern side so that it can be opened as desired. The air in the incubator house should never be allowed to become fouled; hence the importance of ventilation. The ventilation holes should be covered with perforated zinc, and a sliding shutter should be arranged in connection with each so that the apertures can be controlled according to the outer elements.

The Bench.—A bench should be fitted down one side of the house, upon which the machines can be placed. A table should also be fitted up so that the lamps can be trimmed and filled thereon and the drawers of eggs accommodated when they are withdrawn from the incubators. If an outer porch is arranged, it is most useful. The idea in having such a porch is that the operator can enter and close the outer door before opening the inner or main door to the house. No violent rush of cold air is thus admitted to reduce the temperature inside the shed. It is quite against success to allow a sudden burst of cold air into the incubator or brooder house. Hence the value of the outer porch as described above.

The food which is filling a long-felt need for a dependable egg-producer throughout all weather and under all conditions is

William Cook & Sons

IDEAL MEAL

which gives the finest results in eggs of any meal, and promotes and maintains perfect healthiness in the stock fed on it.

In addition to this it is a labour-saver, as William Cook and Sons' method of feeding takes less time than any other, and more effective.
The food is now made in two forms, viz. :—

1) **THE ORIGINAL,**
which is used in the proportion of one part to several of middlings; and

2) **THE COMPLETE,**
which is used without any addition of meals, and is being successfully used as a Dry Mash.

In the complete form it represents far finer value than any other foods purchasable at the present time.

These Meals provide the protein necessary to produce eggs and maintain absolute healthiness in the stock from month to month.

The price of the Ideal Meal in both forms is: Per cwt., **21/-**; per half-cwt., **11/-**; per quarter-cwt., **6/-**; carriage paid in England and Wales; and **1/-** per cwt. less than these prices for Scotland, Ireland, and the Channel Isles, carriage forward.
When ordering it is only necessary for Poultry-keepers to specify No. 1 or No. 2 Ideal Meal.
Those readers of "The Garden" who are not getting eggs would do well to send for a trial bag without delay. For forty or more a 21/- bag; for twenty a bag at 11/-; and for ten or so, a 6/- bag will suffice.

Entirely unsolicited letters to hand daily from those who are getting eggs in profitable numbers, and the following are a few of those recently :—

Yew Tree Farm, Barcombe, Sussex,
February 21st, 1917.
Kindly send me 1 cwt. of No. 1 Ideal Meal. **I am glad to say that from the same number of hens and pullets I have been getting well over double the number of eggs per corresponding weeks to what I did last year, which I attribute solely to the use of your meal.**—J. I. MOORE.

300, Fulham Palace Road, S.W.,
February 22nd, 1917.
Will you kindly send 2 cwt. of your Complete Ideal Meal. My fowls are laying well on it and I have recommended it to several of my friends. It solves the egg difficulty and is so simple to mix.—E. P.

FOOD PRODUCTION

Now is the time to utilise all broody hens and incubators to produce food, *i.e.*, meat from the cockerels and eggs from the pullets, by setting eggs from proved laying strains.

WILLIAM COOK & SONS

ORIGINATORS OF ALL THE ORPINGTON FOWLS & DUCKS

are the founders of the finest laying strains of hardy fowls in this country and can now supply

RELIABLE EGGS FOR HATCHING

BUFF ORPINGTONS, WHITE ORPINGTONS, WHITE WYANDOTTES, SALMON FAVEROLLES, COUDANS, SPECKLED SUSSEX, WHITE LEGHORNS, BLACK LEGHORNS, First Cross FAVEROLLES—SUSSEX.

From good pure stock from their special laying strains guaranteed to produce from 200 to 284 eggs each in the year, **5d.** each.
From pens of birds—all from their finest laying strains, but specially selected for type, colour, and head points, **8d.** each.
The stock from these will lay just as well as from the cheaper pens, but be worth more from the sales point of view as the birds will be more perfect in colour.
Not less than twelve eggs supplied, and no reduction for large numbers.
The Faverolles—Sussex are the quickest growing cross of all obtainable, and the Cockerels make very fine quality table birds and the pullets consistent egg producers throughout the Autumn, Winter and Spring.
Three penny stamps will secure their advice on (1) Artificial Hatching, (2) Rearing, (3) Feeding, (4) Fattening, and (5) Food Production. No poultry-keepers should miss sending for these stamps for this publication.

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PRACTICAL POULTRY POINTERS

FEEDING

Feed early and regularly, and do not keep the fowls standing about for their food on cold mornings.

* * *

Onions are good for fowls of all ages, but should not be given in excess.

* * *

Fat hens are poor layers, for which reason over-feeding must be avoided if full egg-baskets are desired.

* * *

Regular hours for feeding should be the order of the roost.

* * *

Maize is a very useful grain, but owing to its heat-producing elements it must be given in moderation.

* * *

Clover-hay meal makes an excellent substitute for greenstuffs, especially for confined fowls.

* * *

Oats when sprouted represent an economical food. Barley, too, is better appreciated by the fowls when it is sprouted.

EGGS

Infertile eggs are in most cases the result of bad management of the breeding stock.

* * *

Brown-shelled eggs are laid by heavy or sitting breeds, and white-shelled ones by non-sitters.

* * *

Crinkle-shelled eggs should be discarded for hatching purposes.

* * *

Abnormal eggs usually denote that the layer requires a strengthening tonic to correct internal disorders.

* * *

Travelled eggs should be rested for twenty-four hours before being incubated, to allow the contents to become settled.

* * *

Pale-coloured yolks denote an insufficient supply of green-food. Maize deepens the yolk colour.

* * *

Size of egg is governed to a great degree by strain, feeding and breeding.

EGGS

G. B. METCALFE

Winner of FIRST PRIZE GOLD MEDALS in the English Laying Competitions

WITH

WHITE WYANDOTTES AND WHITE LEGHORNS.

Now booking eggs and chicks from his PEDIGREE LAYING STOCK.

List sent on receipt of a postcard.

Claydon Farm, LECHLADE.

MONEY SAVING POULTRY FOODS

By P. L. STANLEY (of the Model Farms, Twyford).

Milder weather is now setting in and your birds ought to be laying freely without such assistance from those foods which it was necessary to give them throughout the cold weather. Now is your time to look round and choose as your staple food some article which is moderate in price but at the same time of first-class quality and free from spices. If you know of anything better than Lifo Poultry Meal I would be glad to hear of it, my experience is that there is nothing so good to be obtained. I am speaking from personal experience, as I have used Lifo for a very large number of birds at the Model Farms, Twyford, as a substitute for Biscuit Meal. It costs only 23/- per cwt. or 1/8 per 7 lb. bag, is sold by all Corn Dealers and manufactured by The Molassine Co., Ltd., of Greenwich. These people issue a very useful little booklet called "Foods and Feeding" which they will be pleased to send to any poultry keeper for 2d. in stamps to cover postage, etc. Lifo Poultry Meal is useful not only for egg production but also for bringing young birds along from the age of twelve weeks up to maturity, and for feeding to the stock birds to keep them vigorous and healthy.

Lifo Poultry Meal may be fed either wet or dry mash. If used wet it should be scalded in the usual way and allowed to stand from 15 to 20 minutes before being dried off with middlings (or sharps as they are called in some parts of the country). If used as dry mash, one part of Bran should be mixed with two parts of Lifo Poultry Meal.

I recommend the wet mash of Lifo Poultry Meal to be fed in the mornings and corn at 11 a.m. Oats, Wheat and Cracked Maize should be given on alternate days, and should be dug into the scratching material so that the birds are kept busy. Corn should again be fed in the afternoon. No birds should be given more than 4 ozs. of food in all per day, except, of course, when they are being fattened for the table.

Green food is a necessity, and may be given ad. lib. Cabbage is the best green food, and swedes are also good. Grit and shell should always be kept before the birds in boxes or hoppers, and fresh water should be given daily. I was rather amused recently to see a suggestion that the best way for a beginner to learn how to feed and rear poultry was to read letters from several thousand other beginners, worthy men — undoubtedly — but admittedly not possessing much knowledge of poultry keeping. The mass of contradictory advice which would be obtained from such a proceeding is appalling to think of. No—beware of blind guides. Poultry keeping is not an intricate or difficult business provided you exercise common sense and use good sound wholesome foods of proved quality, such as those manufactured by The Molassine Co., Ltd., of Greenwich, a concern which is admittedly first in the country in all that pertains to the manufacture of Poultry and Chicken Foods and the breeding and rearing of chicks.

Now just a word or two for those of my readers who already have chicks. When you are hatching under hens, do not put out too many chicks to a coop. For chicks hatched early in the year one dozen to a hen is the full number which should be raised; whereas in April and May the hen will cover eighteen chickens without any difficulty.

Before placing the hen in the coop see that the roof and sides of it are quite weatherproof—no draught holes. On wet days if this shews any signs of being wet inside it should be cleaned out and a fresh lot of peat put in front of them. Where coops have no floors, finely cut straw littered in the coop may be used. It is essential to give early hatched food that will strengthen them against cold and wet weather, and for that reason I advise Molassine Chicken Food as the wet mash owing to its strengthening and health giving properties. It rears strong sturdy chicks quickly. The dry feed should be Molassine Dry Chick Feed, both these Foods can be obtained from your corn dealer.

As in the early part of the year there are no insects about, when the chicks are four weeks old it will be found beneficial to give them a little Molassine Prepared Green Bone (chicken size) mixed in the wet mash. This adequately takes the place of insects.

CLEANSER VIM & POLISHER

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—THAT'S A KNIFE.

ALMOST before you could say "knife" the thing was cleaned and polished—Handle as well as Blade, for Vim is as good for Ivory, Bone and Woodwork as it is for Metals. That is why Vim is so popular in the home. It cleans almost everything.

One rub with Vim when washing up will save endless rubs on the Knife-board.

For all Cooking Utensils—for Tables and Floor-boards—for Paintwork and Tilework—for Brass Taps and Enamel Baths—for the Scullery, Sink, &c.

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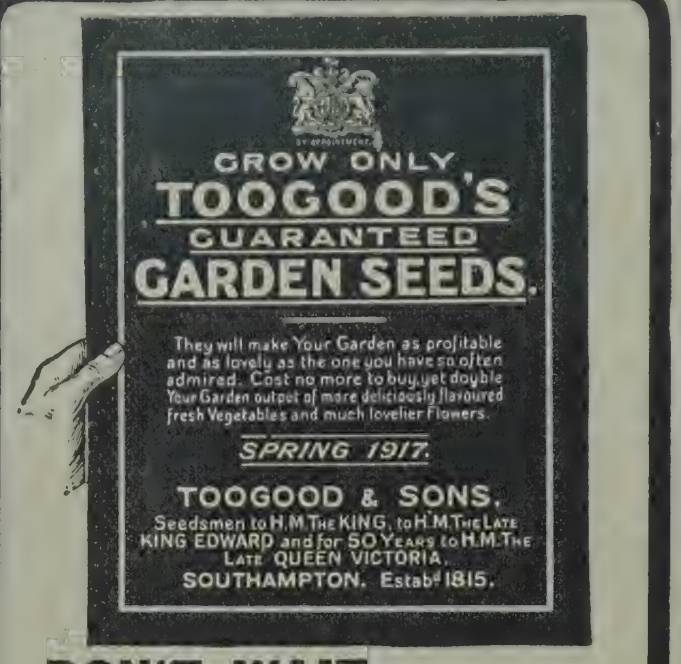
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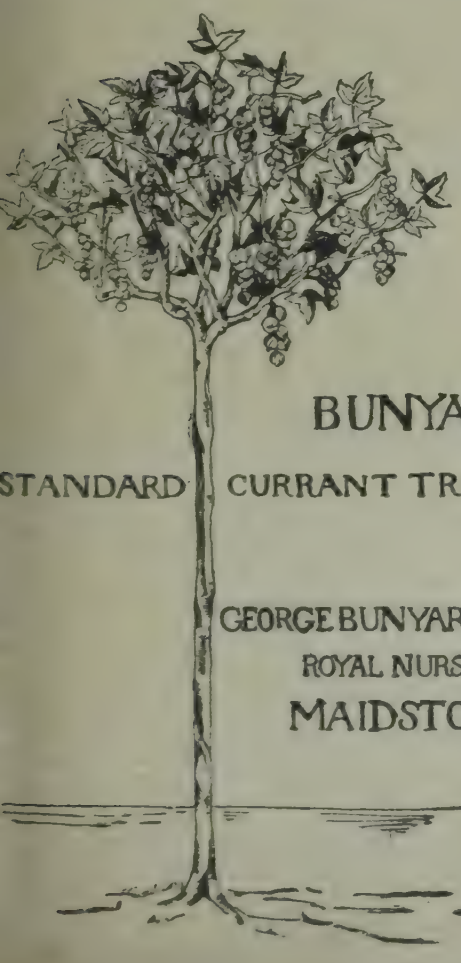

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THE GARDEN.

No. 2364.—Vol. LXXXI. March 10, 1917.

NOTES OF THE WEEK

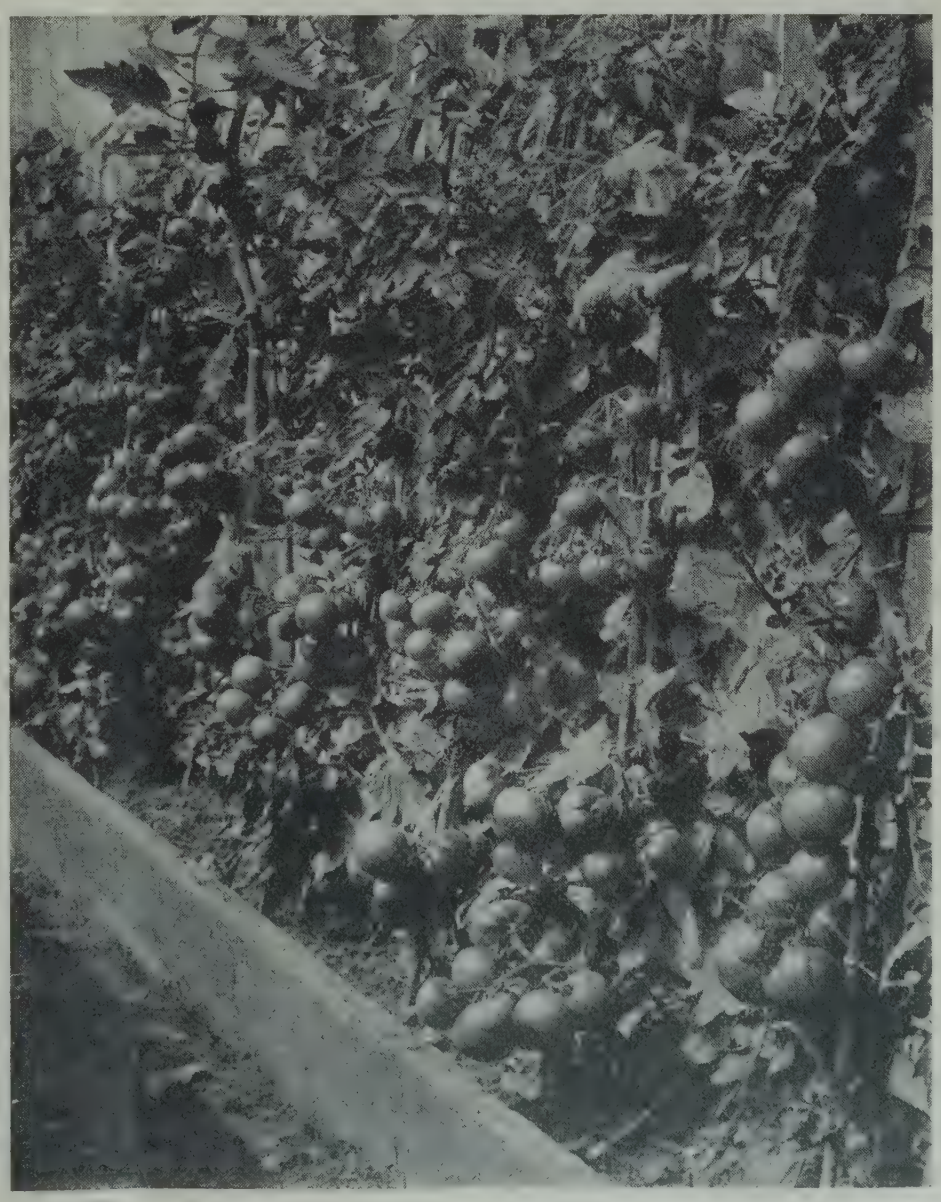
WITH a view to assisting the increase in the production of food in gardens and the smaller cultivated areas, Dr. Keeble, F.R.S., has been released by the Royal Horticultural Society and appointed Director of Horticulture for service with the new Director-General of Food Production, Sir Arthur Lee. It is understood that the ultimate purpose of the appointment is to prepare the way for establishing a horticultural branch of the Board of Agriculture.

A Food Production Society in Every Village.—If not already in existence, a Food Production Society should be formed in each village. The needs are urgent, and those districts which are doing much can try to do more. Generally speaking, the cottager is in a better position to help than the town dweller. If help and advice cannot be obtained locally, communications should be sent to the Food Production Department of the Board of Agriculture, 72, Victoria Street, S.W. Whenever possible, an expert adviser will be sent.

Bringing the Subsoil to the Surface.—It is a most remarkable fact that good gardeners should differ widely in their methods of trenching a piece of land. In the "Correspondence" pages of this issue Mr. Edwin Beckett. V.M.H. strongly advises deep trenching and bringing the subsoil from the bottom spit—even though it be stiff, solid clay—to the surface instead of forking it up and leaving it at the bottom of the trench. Mr. Beckett goes so far as to say that the finest crop of Potatoes he has ever grown was on a piece of ground trenched to a depth of 3 feet, with a solid 2 feet of clay subsoil brought to the surface in midwinter. There are, however, some very important factors in Mr. Beckett's system: (1) Putting in drains to the depth at which the soil is worked; (2) surface dressing of lime in March; and (3) the addition of prepared soil, including half-decayed stable manure, at the time of planting. Unless these conditions can be accomplished, we do not advise bringing the sour subsoil to the surface. No doubt Mr. Beckett will refer to this subject in his lecture on vegetables at the Royal Horticultural Society's meeting on March 13.

Sowing Onions.—No time should be lost in sowing the main batch on land deeply dug in the autumn and forked over last month. With the spell of sharp frost the land is in admirable condition for sowing, the surface having a fine tilth. Where the soil is light, it should be made firm by treading, or on a large plot by rolling, as Onions appreciate a firm rooting space. Draw shallow drills 14 inches apart, and sow the seed thinly with a view to not thinning the plants. A quantity of smaller bulbs is preferable to those fewer in number but larger. James' Long-keeping is still one of the best varieties for a general crop.

Celeriac, or Turnip-Rooted Celery.—Seeds of this useful vegetable can soon be sown. In its early stages the treatment is the same as that meted out to Celery, but at planting-out time differs in that Celeriac needs no trenches. The soil should be rich and fairly deep. Considering its food value, it is remarkable the number of gardens in which it finds no place. It is an excellent vegetable for the table, also for soups and stews, and for use in salads. Some doctors recommend its use in cases of rheumatism and like complaints. Being preservable through the winter and early spring months, it makes a pleasant change from, or addition to, the few available vegetables during those months.



AN EXCELLENT CROP OF TOMATO REGINA GROWN ON A WARM WALL IN THE OPEN.

Peas or Potatoes.—Some discussion took place at a recent meeting of the scientific committee of the Royal Horticultural Society with regard to the relative food values of commonly cultivated vegetables, in the course of which states the official report, the remarkable pre-eminence of the Potato and the comparatively small value of the garden Pea as a heat producer per unit of area was remarked upon.

Tomatoes in the Open.—The article by Mr. F. R. Castle on outdoor Tomatoes will be read with interest by many who intend growing this favourite crop. Mr. Castle has a leaning towards experimenting with many varieties, and his selection has given complete satisfaction in the open. The illustration on this page shows a row of Webb's Regina grown by Mr. Castle at Oxford. The plants are growing against a low wall, and many of the bunches carry over a dozen fruits.

Mountain Mint (Pycnanthemum muticum).—Fragrant-leaved plants have many admirers. Those wishing to add to their collection should procure a plant of the above, if they do not already possess it. Introduced from North America in 1897, it is quite hardy. The white flowers are not very attractive, but its small, Mint-like leaves have a fine aroma, somewhat suggestive of peppermint. There is another species, P lanceolatum, also sweet-scented. The genus is also known as Brachystemum, Koellia and Tullia.

*** Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Bees and Flowers.—I am grateful for the names of flowers for bees sent by readers of THE GARDEN, and not a little amused by one who thinks "garden flowers do not yield much honey and are not worth the trouble," remembering how *full* of bees was the garden of my young days and how swarms were taken there every year, though we never kept bees ourselves. Bees do not waste their time in frequenting places where they find nothing useful, from all I have ever heard of them. Nevertheless, I will also sow some Buckwheat.—ANNE AMATEUR.

—— Mr. George Stocks is probably right when he says that "garden flowers do not yield much honey" (page 64). Nevertheless, I read some time ago, but cannot remember where, that an acre of Mignonette, sown as a bee pasture, would completely support fifteen hives. Judging by a small bed of it that I had in my garden last year, I can well believe this, for it was never without bees until all the plants went to seed. The variety was Pearson's Crimson King—a strong-growing sort that I can readily commend for its especially delicious fragrance. I suppose the Lime tree furnishes more bee sustenance than any other plant, and some of the old writers tell us that the South-East of Europe, the slopes of the Carpathians and the adjacent plains were from the very beginning one immense forest of these trees, which furnished, even in historic times, a gigantic quantity of honey, and in which the Slavs, who moved into them, dwelt and feasted. As the land came more and more into cultivation, every bee-master had his fixed portion of the wood, and the honey trees were marked so that they would not be sacrificed in clearing. By the way, the spirit of Hesiod would be somewhat ashamed if it visited Europe to-day, for in his "Theogony" (*i.e.*, the birth and genealogy of the gods) there is the first mention of an artificial beehive, and in it the working-bees are distinguished from the drones, which latter are actually compared to *women!* —ARTHUR R. GOODWIN, *Kidderminster.*

Destroying Nettles.—My gardener has always assured me that if Nettles are scythed just when in fullest vigour (that is to say, when the flower begins to appear) and then well dressed with salt, very few will appear again; and that a repetition will quite destroy any that do appear.—C. B. R.

Parsnips.—Permit me to say that I think you have omitted to mention the most palatable way to cook this nourishing vegetable, viz., *au gratin.* If the Parsnips are very large and at all likely to be coarse, they should be split and the cores cut out. After having been boiled about an hour, or until quite soft, they should be put in layers in a pie-dish, or casserole, with a milk sauce, in which has been stirred about 1oz. of finely grated cheese. The cheese used should be mild—either Cheddar or Gruyère. (Some people grate the cheese dry into the dish among the Parsnips as they are laid in.) Then cover lightly with breadcrumbs, or Force, and put into a hot oven for about ten minutes. I have known people, who had always been unable to eat Parsnips cooked in the usual way, find that, prepared as above, this most useful vegetable was quite nice and really delicious. Some people will find that they prefer rather more cheese than suggested.—C. B. ROBINSON.

Sparmannia africana.—The African Hemp is of great service in this country where a supply of flowers has to be maintained in the greenhouse all the year round. The brush-like cluster of stamens well repays close inspection by reason of its delightful colouring of purple and gold. During bright sunshine these tints are conspicuous. To ensure a good floral display the plants should be well exposed to sun and air during the latter half of the summer.—H. P.

The Easterman Giant.—The Easterman Giant, mentioned in your last issue, is the Bistort (Polygonum Bistorta). It occurs in the Oxford Dictionary and also in the Dialect Dictionary, and its use as a food is mentioned in "The Treasury of Botany" and in Anne Pratt's well-known popular book. In North Lancashire and South Westmorland it was always known as the Easterledge. Some forty-five years ago it was known as an edible herb, but I do not remember tasting it, and I fancy there is not much demand for it in present times.—R. H. B. BOLTON.

—— The plant used in the herb pudding described by H. M. Scott Nicholson is Bistort, known in this district as Easterledge. I have a large patch of it in my garden, and use the leaves in spring as Spinach. It is not quite as good as young Nettle tops, being coarser and stronger in flavour, but quite useful when greens are scarce and dear to buy. The plant grows wild in certain fields and woods in this valley, but is not, I believe, very common.—RUTH CORDER, *Greenbank, Skelwith, Ambleside.*

Double Epacrises.—On page 72 of THE GARDEN of last week, Dr. W. Botting Hemsley, V.M.H., has a note on the double Epacrises. The late Mr. William Bull, in 1883, sent out two varieties of double Epacrises, *vide* enclosed pages from his catalogue of 1883, and I was then manager for him and superintended the propagation of these plants, which we flowered quite well, and they were lovely when in blossom, more especially the variety called nivalis, of which there is a woodcut.—JOSEPH GODSEFF. [Two double-flowered Epacrises are described in the pages of William Bull's catalogue, 1883, kindly sent by Mr. Godseff. The plants appear in the novelty list under the names E. onosmæflora flore pleno alba and E. o. flore pleno nivalis; they are priced at one guinea each, and received the first-class certificate of the Royal Horticultural Society and the Royal Botanic Society, respectively. The former is referred to as imported from Australia, and the latter as a native of Australia.—ED.]

Winter Spraying of Fruit Trees.—Mr. Engleheart makes a number of statements in your last issue anent winter spraying of fruit trees which I cannot allow to pass unchallenged. To say that "no spraying fluid will kill moths' eggs which is not strong enough to injure the tree" is, to begin with, simply a flagrant untruth. So, too, is the statement that lichen and moss are shed by the action of sap flow and sunshine. As regards the utility of spraying, I could, had I time, simply overwhelm your correspondent with evidence in its favour. Before writing the article he refers to I spent many hours reading the experiences gained by expert pomologists in this country, in the United States of America and in Tasmania, to confirm or set at naught my own observation. No scientific orchardist would ever dream of giving up tree spraying, any more than a common-sense horticulturist would give up fumigating a greenhouse to overcome green fly, unless, of course, some other more effective or simpler method is discovered of ridding our fruit trees of the numerous pests which work endless havoc in neglected orchards and gardens.—J. L. GIBSON.

Trenching.—Now that the cultivation of the land is seriously occupying the attention of so many for augmenting our food supplies and to obtain the highest results from a given space, the question of preparing the soil is one that is frequently put to me, both verbally and by post. Though it is somewhat late to talk of thorough trenching this spring, there are many who are only in possession of a small piece of ground—it may be an old, worn-out garden, or possibly a new site entirely—who are anxious to begin in the right way, and have sufficient time to enable them to do so. There are many methods of trenching. The one that finds most favour is, in my opinion, only a half-hearted measure—this is working the soil to a good depth; but its advocates will tell you on no account to bring the subsoil to the surface, with which advice I entirely disagree. This vexed question has engaged my attention for many years, and I am more fully convinced than ever that trenching from 2 feet 6 inches to 3 feet 6 inches, or even deeper, and putting in drains at the depth to which the soil is worked, is the most effective and profitable method, provided the subsoil is brought to the surface. It only requires a little extra care the first season to produce the very best results. The finest crop of Potatoes I have ever grown was on a piece of ground trenched to the depth of 3 feet, with a solid 2 feet of clay subsoil brought to the surface in midwinter. A surface dressing of chalk lime was applied during March, and the Potato sets were planted 4 feet apart in the rows with a little half-decayed stable litter over each tuber. After the Potatoes were moulded up, winter greens were planted between, the result being the heaviest crop of Potatoes I ever grew, followed by a magnificent supply of winter vegetables. I have had to deal with most kinds of soil, including chalk, sand, gravel, and stiff London clay. In each case I have worked on the same rule, and always with the most satisfactory results. Most people in these days are agreed that deep cultivation is of the utmost importance, and if so, surely one should endeavour to bring the depth of soil which is deemed necessary into good condition at the earliest possible moment; and unless the bottom virgin soil is exposed to the influence of the weather and treated, as it can be, so much easier when on the surface, it will take years instead of months to accomplish what is most desired. Consequently, my advice is to trench as much as possible, and bring the bottom spit to the surface instead of going to the trouble of breaking it up and leaving it in the same position.—EDWIN BECKETT.

A Deserted Garden.—Some months ago a striking article in THE GARDEN graphically informed us as to the havoc worked by modern warfare upon the once delightful garden of a Belgian château. Too profound peace can also be very disastrous to horticulture; an abandoned garden is a truly pathetic spectacle. It should not be thought that the Colonies uniformly present the march of Progress. There are aspects other than the creation of bustling cities within a year or two. Certainly it is so in Tasmania. We have only two cities to show after more than a century, and in England they would be accounted by no means large towns. Launceston, which considers it has pretensions to oust Hobart as

the capital, is perhaps little larger, and not much more bustling, than its Cornish namesake—a town which I would commend to seekers after repose!—and there are many little Tasmanian townships which from one cause or another have greatly declined since the prosperous convict days. Abandoned dwellings are often met with, and, generally, decaying fruit trees, and the presence of garden escapes in the near-by Bush (especially unwanted weeds) gives them an added interest to the plant-

EARLY MARKET, A TOMATO OF EXCELLENT FLAVOUR.

lover. I have found Cape Gooseberries growing out in the Bush, evidence of former cultivation. England is *the* place for gardens. Colonials are by no means devoid of gardening enthusiasm, but generally have greater obstacles to contend with, and, in particular, are so desperately hard-worked tending their stock and grain and doing all sorts of other things likely to be done for them at home that very likely gardening has to be neglected. Flower gardening (that is, in the Bush) only exists as a relaxation for the less hard-worked women, and usually there are at least evidences of it where there are womenfolk. To-day I walked over to what had been an unusually spacious flower garden, the handiwork of a Bush woman in the rare position of having neither children nor cows to attend to. For nearly a year it has been neglected, but still now, in early summer, it makes a brave show—enormous Marguerite bushes in full flower, a sight to behold even a mile away; a gigantic Oak-leaved Geranium, a brave show of Pelargoniums, a thicket of Tree Lupines, self-sown Sweet Peas in full flower all over the place—they have even extended beyond the confines of the garden, Poppies in the grass, Gladioli struggling hard against adversity, and Madonna Lilies also. A Tree Mallow is spreading itself about the neighbourhood, and I wish all success to a similar attempt by Poplars. I returned bearing a big bunch of flowers. A large orchard is a great foe to flower gardening, even to vegetable raising. An English gentleman and gardening enthusiast could make a garden of gardens in this district. Cannot you spare us one or two enthusiasts from Devon or Cornwall? Two would be best; it would breed competition. There is a large local fruit-grower here who has indulged in ornamental planting; he is considered somewhat eccentric, and this year, owing to labour scarcity, has much difficulty to keep his strictly utilitarian orchards and other crops in order.—A. G., *Cambridge, Tasmania.*

OUTDOOR TOMATOES

IN view of recent developments the cultivation of Tomatoes is likely to be more popular than ever, but as prices will probably be extraordinarily high, every lover of these fruits however small the garden may be, should endeavour to grow his own. The unsuitability of our climate is often urged by timid persons as a reason against planting Tomatoes outdoors; and while admitting that when we get an unusually wet or sunless season the weight of ripe fruit gathered is not always very encouraging, I am convinced that if the grower only did his or her "bit," instead of leaving so much to chance, we should hear fewer complaints.

Some years ago it was usual to rely entirely upon the corrugated varieties for outdoor crops, but the introductions during recent years have changed this. On several occasions it has been my privilege to gather fruit perfect in size, shape, and colour from plants growing in the open, which secured premier honours in strong competition. Varieties which give very fine crops include Aviator, Moneymaker, Sunrise, Up-to-Date, Supreme, Carrick, Fillbasket, Regina, Sutton's Early Market and Kondine Red, the last having very large fruit. If seed has not already been sown, it should be done at once, this germinating freely in any ordinary greenhouse; for if ripe fruit is required at the earliest possible date, good plants are essential, and, in selecting these, those having a short, sturdy habit should have preference over others twice the length but carrying no more leaves, remembering that a weak seedling invariably means a weak plant throughout the season.

It is by paying attention to little details that plants carrying half a dozen pounds of ripe fruit are produced, and the selected plants should not be allowed to occupy any pot sufficiently long for the plant to become potbound and the growth "hard"; but by repeated shifts an attempt should be made to get plants which by the end of May have well filled a 5-inch pot with roots, at which time the average height will be about 9 inches, each plant carrying its first truss of blooms well expanded.

Ordinary garden soil enriched with a third of its bulk of old manure will answer well for a start. This should be trodden very firmly before planting. Soils of a heavy nature may be made more suitable for free growth by the addition of bonfire ashes or even those from the house, using about an eighth part. After planting, give a thorough watering, and if the position is a dry one, cover the surface around the plant with strawy litter.

When plants are grown against a wall or fence, I find it a good plan to restrict the roots to the soil provided, by means of sunken boards or slates.

The single-stem system has much to commend it to small growers, and, all things considered, gives the best results; therefore it is advisable to remove all side shoots as they appear, also the little shoots often appearing at the end of a bunch of fruit.

The Tomato is a gross feeder, and when carrying a heavy crop of fruit something besides water is required. I make a point of giving manure water one week and a sprinkling of fish manure the next, and photographs of plants grown here, carrying yards of fruit suggesting ropes of Onions, also single bunches weighing 4½lb., prove the plan to be a good one. In fact, looking back over the last twelve months, I am of opinion that our outdoor Tomato plants have given us better returns than anything else cultivated in the garden. F. R. C.

TOMATO MONEYMAKER GROWING IN THE OPEN ON A SOUTH WALL.

DRY WALL GARDENING AT MOUNTON HOUSE.—I

By H. AVRAY TIPPING, M.A.

LAST year some account was given of the collection of shrubs and of the display of Tulips at Mounton House. Now will follow short articles on its dry walls, its rock garden and its waterside planting. Beyond doubt, the dry wall is a most valuable and effective area for growing alpine plants where site or conditions prevent the making of an adequate rock garden. I say "adequate" because, whereas rock gardens, of a kind, are only too frequent, those that are rightly placed, constructed and planted are quite few. Is not the heart apt to sink when the enthusiastic lady owner of a normal-sized flat garden says, "Come and see my rock garden"? It too often proves a heap of stones, insufficiently cloaked by Arabis and Aubrietia, is the enclosing boundary. The old Palace at Mathern has been more than once illustrated in THE GARDEN, and there the sunk garden system was adopted for dry walling, whereas at Mounton House, in the same neighbourhood, the principal dry wall separates a paved parterre from the croquet lawn, both of which are treated formally, the latter being 3 feet 6 inches below the former. A dry wall about 170 feet long, broken by two flights of steps, forms the dividing line. High masonry walls protect the entire area, except to the south-west, where the ground falls rapidly and affords a wide prospect across to the Mendip Hills in far Somerset. South-west is the aspect of the dry wall, which shares with parterre and lawn the protection from the colder winds, although

ERODIUM CHAMÆDRYOIDES.

thrown up against a wall or piled on to an oval bed on a lawn. A site suggestive of a rock upcrop and rocks of right type rightly set thereon are not practical propositions in the majority of gardens, and therefore the rock garden feature is best avoided therein. But their owners may, and often do, delight in small growths with habits and delicacies of their own. These both look well and do well in a dry wall, and the garden where such an incident cannot find a place is a rarity. It is particularly appropriate near and within the architectural influence of the house, and, indeed, wherever formality is the garden characteristic. Even in small gardens occupying apparently flat ground there is often enough slope to get two levels with a drop of 3 feet between them. Here a mortarless retaining wall, battening back 6 inches in its height, can be constructed, and such makes the ideal dry wall. The same can be just as well contrived where there is no fall by making a sunk garden of which the dry wall the south-westers, sweeping up Severn Sea, are apt to attack in force. That means careful staking of all tall subjects on the parterre, but does good rather than harm to the dry wall colonies that benefit from the airy, open, sunny aspect.

Dry wall building is a job for the gardener himself to undertake rather than the mason. The principle on which the latter is trained is to build walls perfectly perpendicular, completely weather-tight, hostile to plant life. Unless he is able and willing to unlearn all this and aim at the direct opposite, he is a real danger to the success of the dry wall as the home of alpines. If he does not know how, and the gardener cannot be constantly working with him, he is a person to avoid. The making of my own dry walls has been entirely gardener's work, but where he is not the sole contriver, his partnership with the mason must be very close, for it is of the utmost importance that building and planting should be synchronous. Not only should abundant and rich soil be behind the wall and in the interstices, but the roots of the plants should be laid their whole length back into it in a manner that is impossible if the planting takes place after the wall is built. Thus they at once obtain ample hold in a compost which the drying air and the hot sun cannot reach. Of course, the time comes when there must be some after-planting, to replace failures and to add new subjects. Where this is done singly, great care must be taken to clear out the interstice where the plant is to be lodged, to lay back the roots, to fill in with new soil and, by small stones and adhesive earth, to prevent the washing out of the loose soil and the consequent exposure of roots. Where there is any considerable replanting to do, I remove small sections anyhow of the upper half of the wall, and replace as I plant in the same fashion as in the original building. Even then there must be an occasional recourse to watering where the position of the dry wall is as open and sunny as in the case before us. With a full fortnight of summer drought and clear sky, there begins the suggestion of browning leaf and flagging stem. Mere frontal watering cannot cure this; indeed, if it be vigorously attempted it will do more harm than good, for the water will mostly pour off, dragging soil with it. Very softly, when the sun is off, the hose may play on and between the stones. But this is a mere refresher; the deep drink for which the plants yearn can only be administered by laying the hose on the top a foot or more back from the front of the wall, and letting it slowly and leisurely pour out its revivifying draught on to a tilth that admits of percolation through the whole soil from top to bottom of the wall. There are few summers when this need be done more than three or four times, if it is performed with thoroughness.

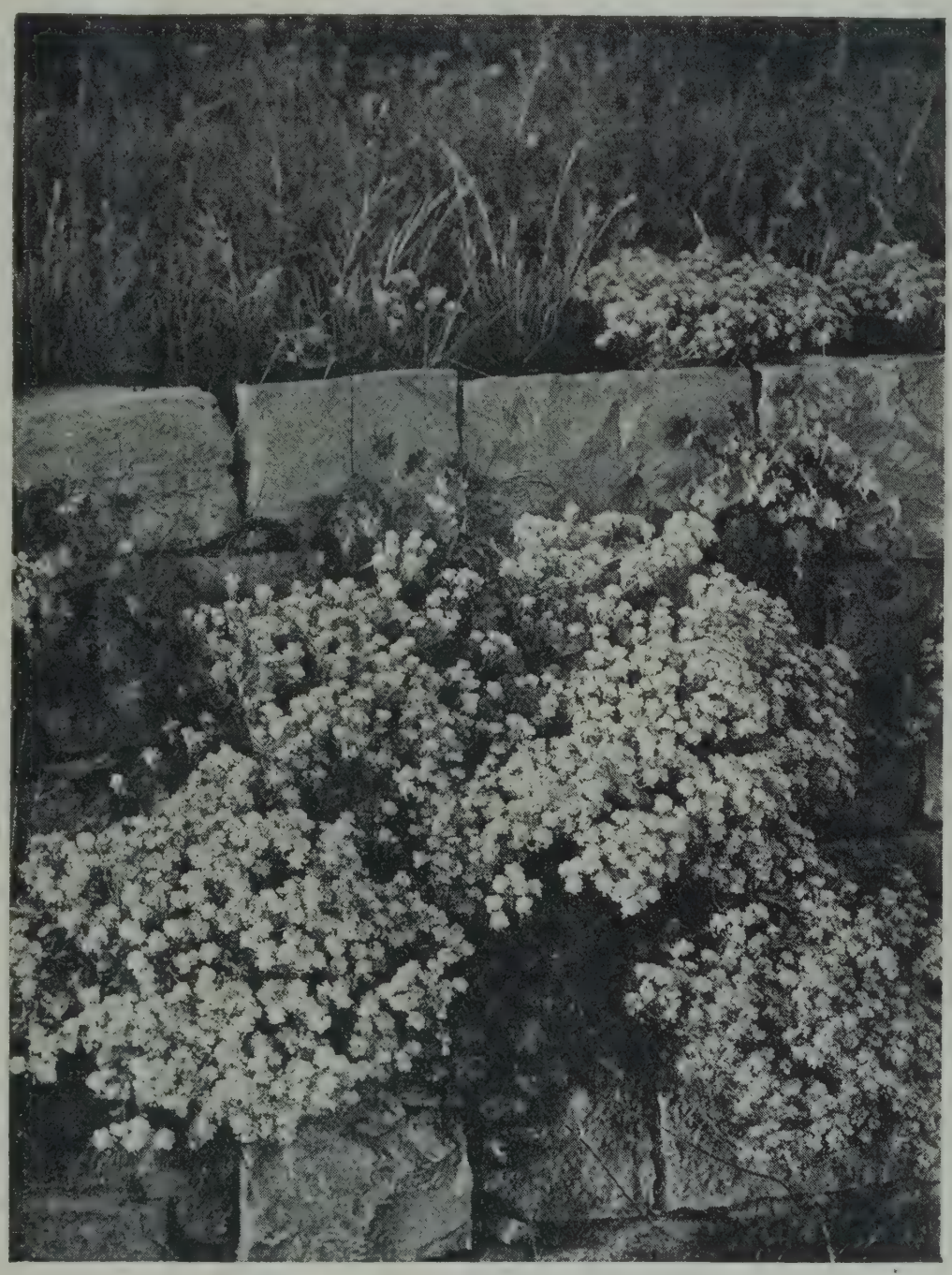
More will be said next week as to the choice and arrangement of the denizens of the dry wall, and but few words are now needed in explanation of the accompanying illustrations. The one takes in a space less than 6 inches square. Unlike many of its family that absorb considerable tracts of the Mounton dry wall, Erodium chamædryoides is a little thing of charming but reticent habit, a sort of tiny Belgium entirely defenceless against Hunnish neighbours, did not a guardian angel in the shape of the pruning-knife watch over its right to its own tiny "place in the sun" and chop off the tentacles of any trespassing octopus. In all alpine gardening the problem is to combine a general appearance of flourishing and uncurtailed growth with the preservation and survival of the puny and fragile members of the community.

The other picture gives about a square yard of the wall area, and shows it to be composed of irregular but not eccentric shaped pieces of limestone from the quarry near by, which supplied the material of all buildings and walls at Mounton House. Behind the top and most regular line of stones Dianthi in variety, all selected and propagated from home-grown seedlings, are seen throwing up their flowering stems among plants of Alyssum citrinum in full bloom. Their pleasant pale yellow is continued down the face of the wall, while about and among them are Heucheras, which, like the Dianthi, are preparing to "follow on." This vertical treatment suits the Heuchera well, both as an agreeable mode of display and a cultural method. Strong-growing varieties, such as brizoides and Zabelliana, develop huge rosettes of happy leafage, from which spring numerous and successive flower-heads that give a long and striking display. More

brilliant but less robust varieties, such as Sanglante and Souvenir of Wolley-Dod, often fail or lead a miserable and dwindling life with me on the level, but succeed on the wall face. It is these that appear among, but are rather engulfed by, the Alyssum. That is only a temporary inconvenience, for as soon as the latter's blooms fade the vigorous and abundant flowering stems will be removed and the better-behaved tuft of leaves will not encroach on their neighbours' "ancient lights."

THE CARE OF LAWNS

A GOOD deal is still being written about the utilisation of lawns for the production of food crops, and numerous letters have appeared in the daily Press advocating digging up tennis lawns, cricket grounds and bowling greens for the cultivation of vegetables. While, however, there is other ground available for food crops, it would be folly to destroy either a good tennis lawn, a cricket ground or a bowling green, for they are costly lawns to make, and a well-made bowling green at least would be the last place likely to produce good vegetable crops unless the whole was replaced with new soil. Neither would it be wise to neglect a bowling green if labour could be found to carry it on, for no lawn is more easily ruined or more expensive to make. But ordinary lawns, and tennis lawns and cricket grounds as well, can be turned to good account and be made productive without causing permanent injury by giving up mowing for a season and using the grass for hay. In fact, some lawns, where the grass is thin, might be improved by allowing the grass to grow to maturity and some of the seed to ripen and fall before the hay is made. The great objection to allowing lawns to be left for hay, and especially tennis lawns and cricket grounds, is that coarse weeds are encouraged both by unrestricted growth and by the distribution of seeds. Also the finer grasses are likely to be suppressed and the coarser ones encouraged; therefore, if the grass is not fairly clean, it might be bad policy to allow it to run on for hay. If a lawn is to be allowed to remain unmown until hay-time, however, it would be wise to give it a dressing of basic slag or bone-meal at the present time to strengthen the weaker grasses and enable them to recover more rapidly after the removal of the hay. In the event of the grass appearing to be weedy at mowing-time, seeds may to some extent be prevented from falling by mowing fairly early and removing the grass elsewhere to dry. After the removal of the crop, advantage should be taken of the first heavy rain to well roll the turf, the rolling being repeated at frequent intervals if the grass is to be kept mown after hay-time. If, however, it cannot be mown regularly, roll it well and mow it again about the end of September, or, if the ground can be easily fenced with sheep hurdles, turn a few sheep on it and allow them to bite the grass down close, without, however, making the ground bare. Sheep have a beneficial effect upon weedy lawns, for not only do they crop the weeds down close, but the weeds are weakened by the continual pressure of the small feet, grassland eaten over by sheep usually being less weedy than that upon which cattle are pastured. After the removal of the sheep give the ground a dressing of well-decayed farmyard manure, or good soil if the land is light, and sandy soil if the ground is heavy, which should be raked about well so as to fill any little inequalities in the turf which may have appeared during summer and autumn. As soon as the dressing has disappeared, brush the grass well with a besom or rake it with a wooden rake; then roll it several times at intervals of a week or two with a moderately heavy roller. Providing the lawn is mown a second time in autumn instead of being used for pasture, the same treatment may be followed, but it will be likely to require more rolling. By following out such a programme considerable profit may be made from a large lawn in good condition while it is not likely to suffer serious injury by being allowed to remain unmown until midsummer for one or two years. W. D.



PINKS, HEUCHERAS AND ALYSSUM.

THE GROWING OF VEGETABLES

BY MRS. C. W. EARLE.

IN my last notes in THE GARDEN of February 17 I wrote of Seakale Beet and Witloof Chicory. Now I would bring to your notice a vegetable so much grown in Italy and a little difficult to grow here—Fennel (Fœniculum officinale). I am bound to admit I have not been very successful with it, as I tried sowing, which one must do till one has some old plants. It is best cultivated by division of old plants in March, and is a perennial and a long-lived subject. If you have no old plants, sow seed in March in rows 8 inches apart. Water well in dry weather. When the tubers swell, draw the soil, which should be rich, over them; the flower-heads should be removed as they appear. It can be bought in ordinary times at Italian greengrocers' in London. It should be cooked in vegetarian or meat stock, and served with a rich butter sauce.

This winter, especially, when so many vegetables have been killed or injured, we have found the common Dandelion (Taraxacum officinale) most useful and wholesome as a winter salad. It is best to buy the seed, as there are improved varieties, and these, properly cultivated, produce one of the best winter salads we have, and salads in winter are most desirable. Sow the improved variety early in May in rows a foot apart, and thin out to about 8 inches apart. Remove all flower-buds as fast as they appear. Lift the roots in October, twist off the leaves, and leave the roots a few days to dry on the ground; then store them in a shed in dry earth or sand. Plant them in winter in boxes or pots as they are wanted, and bring them on in the dark in a warm greenhouse or frame. If the leaves are allowed to get green they are too bitter for most people.

Purslane (Portulaca oleracea) is an annual, but in a light soil and a sunny situation it sows itself and comes up again. The leaves are gathered as required; they can be eaten raw in salad, and are very good in soup. The stalks of Purslane can be pickled in vinegar, like Gherkins. When used as a salad, herbs—Tarragon, Parsley, Thyme, &c.—added, chopped fine, make a great improvement. Mrs. Ross' excellent Florence salad oil is still to be obtained at the Central Buying Agency, 2, Gresham Buildings, Basinghall Street, London, E.C.

The Tree or Egyptian Onion is seldom grown now, all prizes being given for size. I find it easy to grow; it is most useful and delicious, and saves the keeping Onions. It likes a warm, dry situation. Instead of seeds, the stem produces at the extremity a cluster of bulblets, and these should be gathered when about the size of Hazel

Nuts. It is from these the plants are propagated, but they do not produce any bulblets until the second year. They are excellent to eat stewed with other vegetables or braised in butter. The root bulbs soon decay, but the bulblets keep very well. All kinds of Onion should be cultivated, especially by vegetarians.

Rhubarb comes in very usefully in August. If two or three large plants are not cut or protected in spring, but allowed to grow till the end of May, then cut to the ground, the growth in August makes excellent tarts, hardly to be distinguished from those made from Plums. This autumn growth also bottles very well, I find, though I did not try it till last year.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Pruning.—Newly planted trees should be cut back to within 6 inches, 8 inches, or 10 inches, according to the size of last year's shoots, to induce the trees to make vigorous growth during the current season. The weakly shoots should be cut the closest, as hard pruning tends to induce greater energy in growth. The established trees should be promptly pruned; Apples especially are giving great promise of blossom. Old orchard trees should be freely cut in the centre if the branches are overcrowded.

Raspberries.—Newly planted canes, if cut down to within a foot of their base, will throw up vigorous canes that should give a full crop of fruit next year. If newly planted canes are left intact they give a little fruit during the current year, but they do not make vigorous shoots, and thus the planter loses in his fruit crop in the long run.

Loganberries should be finally pruned and trained to whatever supports they have. Cut away all of last year's fruiting wood, leaving the strongest shoots made last year to give this season's crop. Do not overcrowd the shoots; give ample space, as finer fruit is thus obtained. Place a 2-inch mulch of half-decayed manure over the surface for at least 2 feet away from the stem; the surface roots readily appreciate this aid to increased vigour, and the plants give a continuous supply of fruit.

Spraying.—Fruit trees of any kind that have moss or lichen on their branches cannot give the best results either in fruit or growth. The spraying of trees, large or small, is so simple that all should be cleansed as required. Now that there are so many ready-made washes obtainable, the chief point in using them is to carry out the printed instructions, erring on the side of weakness, if at all. For my part I use pure lime only, and find it answers admirably; and where lime in the soil is deficient, the extra quantity of liquid that falls from the trees in spraying is beneficial to the ground. Pure, hard quicklime should be used at the rate of 1lb. to a gallon of soft water. When thoroughly dissolved and screened through a fine sieve, no difficulty need be experienced in applying the liquid with a pneumatic sprayer, or with a hand syringe where there are only a few trees.

Fruit Under Glass.

Strawberries in Pots.—Care should be taken to water the plants regularly, especially where they are on shelves in a vinery near the Vines. If the soil is allowed to become dry, red spider often attacks the leaves and quickly spreads to the Vines or Peach trees, doing much harm to the fruits if allowed to go unchecked. Plants with fruit swelling should have liberal supplies of liquid manure to aid in finishing off the fruit. At this season too many fruits should not be retained on the plants. It is far better to have eight full-sized berries of varieties like King George or Royal Sovereign than double the number proportionately smaller and of inferior quality in flesh and flavour.

Fruit Trees in Pots.—The later trees of Peaches and Nectarines will now be opening their flowers. See that the trees do not become dry at the roots; maintain a buoyant atmosphere, and gently shake the trees daily when the blossoms are fully open to disperse the pollen to ensure a good "set." Trees the flowers of which are not yet open should be fumigated, to ensure that no green fly is lurking about the buds. This pest quickly cripples the tender growth while the blossoms are open.

The Flower Garden.

The Shrubberies.—The recent frosts have no doubt crippled many tender shrubs that have withstood any frost experienced during the last ten years, and no doubt many people have been somewhat careless in affording protection. Plants like Ceanothuses, for example, that have suffered should be severely cut back to healthy wood; this will aid new growth.

Clematises should now be pruned, cutting the Jackmanii type back to within an eye or two of its base; this will induce vigour in the future growth. A top-dressing of loam and half-decayed horse-manure will give a fillip to the new growth. Attend carefully to the new growth as fast as it is made, to avoid entanglements.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—The main sowing of these may now be made, and, although less particular as to soil than most things, yet depth and richness pay in the end. Early Mazagan and Windsor are best for an early crop, and Longpod for general cultivation; while Bunyard's Exhibition or Leviathan may be grown where the larger types are desired.

Peas.—Another sowing of Peas may be made, Early Snowdrop, Pilot and Gradus being suitable sorts.

Onions.—This crop requires a deep and well-worked soil, which, if dug some time ago, should now be broken down with a fork, at the same time giving a dressing of soot. After thoroughly raking the surface, drills for the seed should be drawn a foot apart and an inch in depth. Sow the seed evenly and thinly, and if any burnt refuse is at hand, it may with profit be scattered over the surface before levelling the drills. For this outside sowing James' Long-keeping and Brown Globe are excellent varieties.

Brassicas.—Most of this family, Savoys, main-crop Cabbage, Cauliflowers, Broccoli and Kale, should now be sown on a well-prepared seed-bed for general planting, while at the same time a few lines of Lettuce may also be sown for succession. Use finely sifted soil to cover the seeds, and protect from birds by netting the plot.

Leeks.—Sowing may be carried out in a similar manner to that advised for Onions, but as they will be transplanted in due course, a small-sized seed-bed generally suffices.

Potatoes.—A few rows should be planted on a warm border for early work, choosing May Queen and Early Ashleaf, as these are reliable earlies.

Fruit Under Glass.

Peaches.—These will now require attention in the way of disbudding. Young trees with a lot of trellis to cover should have the strongest-growing buds encouraged, and, as soon as the growth is fairly even, disbudding may be done, leaving only what will fruit the following season. Shoots which fail to set their fruits ought to be cut out. It is essential that plenty of light and air be had for the ripening of both the fruits and branches.

Plants Under Glass.

Seedlings.—The pricking out of seedlings of different sorts will now demand attention, and the sooner this is done the better the plants will be. The work is probably more tedious when the seedlings are very small, and more care is necessary in the handling of them, but in the end the results are better. Shade all seedlings after pricking out until they take to the new soil.

Roses in Pots.—These will now be showing bud, and are therefore at a time when they are likely to be attacked by green fly and other pests. A look-out should therefore be kept for these, and remedies used to check them whenever they are seen. Where varieties are planted out to cover back walls and pillars, a liberal sprinkling of manure should be given, Thomson's being very suitable for this purpose. Niphetos and Maréchal Niel, two favourite Roses for inside work, respond readily and give good results under such treatment.

Dahlias.—Tubers should now be placed in heat. Work in some leaf-mould among the roots and spray occasionally, when they will soon break into growth and so allow of cuttings being taken.

Cuttings in Cold Frames.—The ventilating of frames in which bedding material is wintering should now receive careful attention. The mornings and evenings just now are frequently frosty, with strong sunshine during the day, so that care must be taken not to open the lights too early, yet they should be opened in time to prevent a sudden rise of temperature, closing while a little of the sun is on the house, so that some warmth may be shut in to sustain the temperature during the night. See that protecting material is at hand in case of need. JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Odontioda Joan Broadlands Variety.—This is one of the most remarkable hybrids we have seen. The sepals are of rare substance, slightly waved at the margin, and wholly coloured an intense dusky maroon, a Grape-like bloom or sheen adding intensity to the flower. The pronounced claret red lip is very lightly mottled white.

Cymbidium insigne album.—A chaste and beautiful form with alabaster white flowers delicately tinted with flesh colour at the lip. Obviously a vigorous grower of much merit. These were from Messrs. Armstrong and Brown, Tunbridge Wells.

Miltonia Venus (M. Phalænopsis × M. vexillaria).—The sepals are coloured a pinkish white in the upper half of the flower, the lower ones having a white ground copiously blotched with blood crimson. Smaller than many, it is, notwithstanding, quite unique, by reason of the colour markings named. Shown by Messrs. Charlesworth and Co., Hayward's Heath.

Cyclamen Cherry Ripe.—One of the most brilliant of the forms of C. latifolium, and for colour practially unique. Deepest cerise of a most intense shade is approximately correct for it, which, with crimson-coloured base, renders it very striking. We know of nothing like it. From Messrs. Stuart Low and Co., Enfield.

The foregoing novelties were before the Royal Horticultural Society on February 27, when the awards were made.

THE BEST CULINARY PEAS OVER A SERIES OF YEARS

IT is never safe to judge any plant by its behaviour during one season, and culinary Peas are no exception to this rule. As this crop is of so much importance in most gardens, it is incumbent on all gardeners to try to discover the most reliable varieties for their own particular district. After many years of experiment, I find the following to be invariably good here: The Pilot, Senator, Boston Unrivalled, Superlative, Glory of Devon, Royal Salute, The Gladstone, Carter's Latest Giant, and Rearguard. Of dwarf Peas, Manifold, Daisy and The Lincoln are splendid

Preston House Gardens, Linlithgow. C. BLAIR

BOOKS

Vegetable Growing in War-Time.*—This is a most practical little book, containing just what unlearned amateurs want to know, and (this is its strong point) written in language they can understand. Advice given by gardening experts is too often full of technical terms unintelligible to ordinary folks. I wonder why they, with doctors and lawyers, *will* act on the old saying, "Language was given us to conceal our thoughts." I remember, when I became the proud possessor of a Vine, turning to a standard book on gardening and reading, "It must first be decided whether to train on the rod or spur system." "Now what *does* that mean?" I said, "both *sound cruel.*" Mr. Cowley gives two most valuable time tables for sowing and planting, and adds what amateurs want to know, but are rarely told, *i.e.*, when the crops will be ready to *use*. The book gives, in orderly sequence, Choosing Sites, Preparing Soil, Information as to Manures (I am glad to see *lime* among them), then Sowing, Planting, and Rotation of Crops. Useful hints are scattered *en passant*, such as cleaning the spade with paraffin before putting it away, "a pint [of Peas] will sow a row 50 feet in length," "a handful of Hop Manure to 2 yards run." The book deals fully with Potatoes, Cabbages, Peas, Beans and Onions, and includes references to other vegetables. It does not raise hopes—unlikely to be realised—of phenomenal crops (as unwise seedsmen often do), so leading to disappointment and failure of further effort. There is a concluding paragraph on Jerusalem Artichokes well worthy of attention. ANNE AMATEUR.

* "Vegetable Growing in War-Time," by Herbert Cowley, Editor of THE GARDEN. Published at the Offices of *Country Life*, Limited, 20, Tavistock Street, Covent Garden; price 6d. net.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

AUTUMN-SOWN SWEET PEAS DAMAGED BY FROST (*Burton*).—We think you will find that your autumn-sown Sweet Peas will recover, especially as they are thus early showing signs of doing so, and though you may lose the leading growths of most of the plants, the side growths will probably push out quite strongly during the next two or three weeks. If they do so, the blooms will certainly be earlier and much better in substance than any you would get from spring-sown plants. It might be advisable to sow a few in boxes and raise them in a little heat to make good any serious gaps there may be in the rows or clumps, planting them out during the third or last week in April. In the meantime encourage the autumn-sown plants all you can by running the hand hoe between them occasionally when the soil is in a dry enough condition, removing the injured growths as soon as the basal shoots are growing nicely.

PLANTING FLOWER-BEDS (*Mrs. James A. E., Troy*).—We think you might with advantage in the coming autumn add greatly to the interest of the beds and materially prolong the flowering by introducing a greater variety of the bolder flowering Daffodils, particularly such as *Emperor, Empress, *Sir Watkin, *Mme. de Graaff, *Victoria and Golden Spur; also Lucifer, Barri conspicuus and others. An indispensable set of four of these, assuming that you would arrange these on the same plan as the other plants, are marked by asterisks, and all are vigorous and free flowering. With respect to the flower-beds, the mention of Verbena Miss Willmott and others leaves us in some doubt as to whether all hardy perennials are needed, or these with tender subjects. As the majority of the plants now employed are hardy, we incline to the former view. Useful plants for grouping or massing would be Aster Amellus (2 feet, violet) and Verbena venosa (1½ feet, purplish)—this is a hardy species; or Aster Amellus and a pure white Phlox, like, say, Mrs. E. H. Jenkins or Fiancée, the former a fine-habited plant 2½ feet high or rather more. Rudbeckia Newmanii (2 feet or rather less, black and gold) and Helenium grandicephalum cupreum (2½ feet, coppery crimson) might also be associated advantageously. Both are fine-habited subjects and great bloomers. Again, Geum Mrs. Bradshaw (1¾ feet, scarlet) and either white Ten-week Stock or Erigeron salsuginosus (2 feet, lilac white flowers) would prove very striking. Another very effective contrast would be forthcoming by employing together Pentstemon barbatus (elegant spikes of scarlet 3 feet to 4 feet high) and Campanula persicifolia Moerheimii or C. p. alba coronata; while Aster acris (2½ feet, violet blue) and A. ericoides Desire (3½ feet, fairy white flowers in elegant sprays) should give quite a unique bed. We think, too, that you might with good effect employ some of the finer Aubrietias, either as broad marginal subjects or as carpeters, though the majority we have named would practically carpet the ground themselves. Some good ones are Dr. Mules (deep violet), Fire King, Lavender, and Moerheimii (pink). Try an association of Eryngium giganteum and E. Oliverianum (Ivory Thistle and amethyst blue Sea Holly respectively), with a thin carpeting of blue and white Violas, also respectively, under each. Then, as something you can hardly afford to be without, try Heuchera Rosamunde (3 feet, delicate pink) and H. erubescens, which has marbled foliage and elegant panicles of white flowers. The two make a surprisingly pretty bed and give garniture of an acceptable kind long before and after the going of the flowers. Finally, have you ever thought of such an association as Romneya trichocalyx, a glistening white Poppywort beset with a tuft of golden anthers, interspersed with the elegant Thalictrum dipterocarpum? If not, try a plant or two for the sake of experiment—and information.

THE GREENHOUSE.

PALM FOR AN INTERMEDIATE HOUSE (*Miss P.*).—A Fan Palm approaching anything the height named will be very difficult to obtain, though perhaps an application to Messrs. Stuart Low and Co., Bush Hill Park, Enfield; or to Mr. Robert Green, 28, Crawford Street, London, W., will be successful. Chamærops excelsa is the most likely to suit, but it would, of course, be a very old specimen. You ask for a Fan Palm, otherwise we should without hesitation recommend Kentia Belmoreana or K. Fosteriana, the latter for choice.

VEGETABLES TO GROW IN A COLD GREENHOUSE (*J. L. L.*).—There are many vegetables besides Tomatoes which could be grown in such a house with advantage. Vegetable Marrows would succeed excellently and come into bearing early. Make up a heap of manure in the middle of the floor—say, four or five barrowloads—with two barrowloads of soil, treading both down firmly, and sow the seeds in the soil soon. Two Marrow plants would fill the house in the course of the early summer, and give a good return. Or French Beans could be grown in boxes or pots, or in a border. Early Potatoes planted in pots (three Potatoes in a 7-inch pot) succeed very well. Plant both as soon as they can be got ready. Buddleia Veitchiana.—If you wish to keep the plant in a fairly dwarf condition, cut back the young shoots of last year's growth to within three buds of their base. The flowering shoots are those of the current year's growth.

TO COMBAT MEALY BUG ON VINE (*F. B. P.*).—Fumigate the house with hydrocyanic acid gas while the Vine is dormant. For each 100 cubic feet of the house use 1oz. of potassium cyanide, 1½oz. of sulphuric acid and 3oz. of water. Make all doors and windows as tight as possible. Pour the water into an earthen dish, then add the acid. Put the cyanide into a thin paper bag, and when all is ready drop it into the acid and *immediately* leave the house. The gas is very poisonous indeed—deadly, in fact—and is only safe to use when the house can be opened for a time without entering it. It must be ventilated very freely before it is entered, and care must be taken that no one breathes any of the gas which escapes from the house. As an additional precaution an arrangement might be made for dropping the cyanide into the acid after the operator has left the house.

FUMIGATING WITH HYDROCYANIC ACID GAS.—I see in the issue of THE GARDEN of December 23, 1916, that you advise fumigating with hydrocyanic acid gas to kill mealy bug; that for every 100 cubic feet of space in the house one should use 1oz. of potassium cyanide, 1½oz. of sulphuric acid, and 3oz. of water. Now this appears to me to be a mistake. Last spring I was very much troubled with the white fly, and Tobacco smoke had no effect on them—not as regards killing; so a friend advised me to use the gas, which I had never used before, although I have been using Tobacco for fumigating for over fifty years. My houses are 100 feet long, 12 feet wide, side walls 4 feet high, and from floor to ridge a trifle over 7 feet. Now, I make this space about 6,600 cubic feet in rough measuring, and I use 1½oz. of potassium cyanide, 1oz. of sulphuric acid, and 3oz. of water. This has killed everything in the shape of the white fly and the green aphis, and I have not seen a white fly for a long while. When I first fumigated with the above I had quite a lot of Buddleias in 5-inch pots in one of the houses, and a lot of Scented Geraniums in the same size pots. These plants were badly scorched and one of the Buddleias died, but nothing else was injured, not even the Maidenhair Ferns; so to my way of thinking it would not be advisable to use the gas much stronger. Of course, it might be necessary to use it stronger to kill mealy bug, but then it would be dangerous to plant life.—G. A. KNIGHT, *Victoria, B.C.*

[Gas of the strength recommended is only safe to use in the case of dormant plants or trees. One-tenth the strength may be used for greenhouse plants, or even one-twentieth the strength here recommended. The existing conditions at the time of fumigation determine the effect of the gas to a considerable extent. Only after dusk is it safe to use the gas, and then not when the air is very moist.—ED.]

KITCHEN GARDEN.

TREATMENT OF SOIL FOR POTATOES (*A. E. B.*).—Spread the bonfire ash over the ground before planting. Make furrows for planting about 5 inches or 6 inches in depth and the proper distance apart. Spread the manure in the bottom of the furrows at the rate of 2½cwt. to 5cwt. to the square rod, and sprinkle on it at the rate of 2oz. to the yard run of furrow a mixture of two parts of sulphate of ammonia to five parts of superphosphate of lime. Then stand the Potatoes in the trenches with the sprouted end upwards and fill in with the soil. This is the best method where manuring has been delayed, but the manure is, perhaps, better spread and dug in, and the artificials alone used in the furrows.

NAME OF PLANT.—*Viator, France.*—Black Bryony (Tamus communis).

A Contrast.—After several days of a withering, searching blast from the north-east, which has taken the very life out of our alpines and tender shrubs, came the mantle of snow. Would that it had come before! As it is, I fear there will be many casualties. We were unprepared; caught napping. It is well when such weather portends to have a bag of Cocoanut fibre handy wherewith to tuck up the more tender and exacting of our treasures, and so delude them that they are under a snow blanket. I fear, too, our avian friends will suffer many gaps in their ranks. I saw an unusual sight the other day while working in the garden. On hearing the familiar "Tap! tap!" generally associated with July's parching days, and on looking into the base of an old hedge, I saw our speckled friend making a breakfast off a good fat snail. Truly "it's an ill wind," &c. We can well spare those specimens of the genus Bulimus. What a contrast to January and February, 1916! Quite a different state of things obtained in the rock garden and herbaceous borders: vernal Crocus, Snowdrop and the homely Primrose in bud and flower, with alpines more or less in full growth. In the borders, among other things, Delphiniums and perennial Asters had growths from 3 inches to 6 inches high—a disastrous state of things as far as these were concerned; for later, in the month of March, when we had such a prolonged period of wet and cold, we lost 50 per cent. of our established plants—first, owing to the slugs nibbling off their tops, notwithstanding being ashed up to the tops of their crowns; secondly, owing to the saturated condition, causing the roots to rot. This year they are fast under a covering of a different nature. Now is the time when one would appreciate an alpine house such as was advocated in THE GARDEN of December 2, 1916, and surely it must come in better times, where one can enjoy the unalloyed purity and scents of our mountain treasures in comparative comfort and shelter. By the way, what a charming mid-winter bouquet Iris stylosa makes; or, to be correct, according to Mr. E. A. Bowles in his charming series of books, unguicularis is the proper name and claims priority over stylosa. However, it is very sweet and beautiful, and associated in the same bowl with a little Iris greenery, no sweeter and prettier bouquet can hardly be found at this time of the year. I wonder Mr. E. A. Bowles did not find this out.—W. D., *Bexhill.*

PUBLICATIONS RECEIVED.

"Horticultural Directory and Year Book for 1917." Published at 41, Wellington Street, Covent Garden; price 1s.

Journal of the Royal Horticultural Society's Gardens Club, 1916: No. IX. From Mr. W. D. Cartwright, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

INTENSIVE POULTRY CULTURE

VERY many of my correspondents have recently asked for full particulars of the intensive system of poultry-keeping. I propose, therefore, dealing with this method of keeping fowls for the guidance of my numerous readers.

What it is.—For the intensive system the Yankee is rightly given the credit. But while it is true that the Americans boomed and named the new method and a few years ago sent it to these isles, it is not generally known that the same method of keeping fowls was in vogue here long ago. Then it had no name to boast of, and after the Yankee had tried and boomed it, he gave it the label "intensive" and sent it back to us as something new. Upon its introduction into these isles everybody seemed against the new order of things, and every poultry writer except myself libelled it most cruelly. I remained firm in my convictions that it solved the winter egg problem, and gave it my full support. As each season rolled on and I found "two houses where there was one before" on each poultry establishment I visited, I was fully pleased that I had given the new method the only welcome it received.

Now Established.—The intensive system has now established its position in the world of poultry, and in time it will be universally recognised as the only solution to commercial egg-farming on extensive lines. This has always been my unbiased opinion, and I shall not be wrong. The system is very simple. Imagine as *one* structure a nice light, roomy poultry-house wherein the birds roost, scratch and keep "happy," and you have the intensive house in a nutshell. The front is open to admit fresh air, but the latter is perfectly controlled by means of a fixed hood (of wood or glass) at the top. To temper down the wind and keep out the rain, glass or canvas shutters are also provided in the front, while the lower part of the latter is boarded in to keep out ground draughts and make the structure cosy.

Fresh Air and Sunshine.—Fresh air and sunshine are two essentials to the successful cult of the hen, and yet so very few houses except of the intensive type provide for these two pointers; and it is surprising the number of poultry-keepers who do not trouble to provide sunshine and fresh air for their fowls. Yet both cost so little—a piece of glass and a length of wire-netting. The most successful house as regards *health* of the inmates in the old days was the open-fronted type of structure, although, of course, it had drawbacks in other directions, principally its lack of ground-space. The intensive house goes one further, and while Old Sol is enabled to cover the whole of the ground-space, fresh air can be provided in whatever degree required, since the front is under perfect control, thanks to the sliding and drop shutters in the front.

Scratching Exercise.—Every inch of ground-space in an intensive structure is given to the fowls. The droppings-board and perches are fitted up in the rear; the nest-boxes are either outside or fixed (off the ground) to the drop-board; the dust-bath is placed on legs; the food-troughs, grit, shell and charcoal hoppers and drinking fountains are arranged outside—with the sole idea of giving the inmates all the "elbow-room" possible. The floor is deeply bedded down with litter, and the fowls can always be happy and busy among the litter scratching for the last grain without a care for the snow, slush, wind or rain outside. The houses are of numerous sizes and designs, of course, from the six-hens-and-a-rooster size to that of the "palace" for 3,000 layers.

For the Lawn.—For those desiring to convert their lawns (from the national standpoint) into poultry-runs, the intensive system has everything to recommend it. In the first place, an intensive house is a real ornament. There is nothing unsightly about the structure, and since the fowls will be quite happy for the most part confined to their dwelling-house, no wire-netting enclosures are necessary to keep the fowls within bounds. In the winter months the birds are better confined almost *in toto*, occasional run-outs being allowed only on fine days. At other seasons the same plan of controlment can be adopted, since with these houses the birds do not seem to have the desire to wander far. Thus an occasional outing only for a short period on fine days will keep the inmates fit and in laying condition. If it is quite convenient to allow frequent run-outs, this is recommended, but only in very favourable weather, with special reservations in the winter.

For the Garden.—For the garden the owner can combine his own work with that of successful and profitable poultry-keeping. There is no reason, for instance, why he should not place the house in the centre of four wire-netting enclosures of any length desired. The idea is to crop three of the runs while the birds are occupying and manuring the fourth. The manurial value of fowl manure is very high, and any crops will greatly benefit by the system here recommended. There are, of course, variations of this plan, according to circumstances. Six or eight wire-netting runs can be arranged, if necessary, for the crops the owner intends to produce, and the fowls can, if desired, occupy one or more enclosures. Kale can be grown in two runs for the fowls to eat off. Several pop-holes would have to be arranged for each house, the one in the run to be occupied being left open while the others were closed. Such a system enables a rotation of crops, the fowls following round accordingly.

Artificial Methods.—The great success of the intensive system, in my opinion, lies in the fact that it allows of artificial methods. The majority of poultry-keepers, in their treatment of the hen, seem to overlook the fact that she is in every way an artificial little creature. Time was when the hen in her wild state was content to lay a clutch of eggs to produce her own offspring. Those two dozen eggs have been increased by artificial means of domestication to over 300 eggs in many individual cases, *i.e.*, per annum. If, then, in the jungle Biddy laid only twenty-four eggs each spring, what happened to the remainder? These were undoubtedly digested inwardly in the winter months when animal and wild food was scarce! Having, therefore, provided artificial warmth and energy-promoting foods for the hen during the cold, wintry elements, we have taught the hen to *produce* instead of *devour* those surplus eggs of hers.

Cinderella of Agriculture.—Poultry husbandry has always been regarded as the Cinderella of agriculture, and only, believe me, because housing and management were in the original days entirely against successful egg-production. Had the intensive system been in vogue, the tale would have been different. The farmer expected his fowls to follow the plough in ordinary roosting structures and in all weathers, and to lay eggs. Cold and wet underfoot and overhead, no wonder the hens moped and laid only in the spring and summer, when no hen can help laying! Had the farmer fixed four wheels on an intensive house and shut the hens in when the outer elements were against them, poultry culture would to-day have ranked foremost in agriculture.

Backyard Poultry-Keeping.—In the winter the backyard poultry-keeper is never without eggs, and I attribute this solely to his method of controlling the layers. The birds are protected from the bitter elements, and their energy goes towards egg-output. The intensive house is the ideal "backyard-plant" for the farmer or person who has open fields or spaces. Having adopted artificial methods since the jungle days as regards breeding and feeding, we must carry out the same in housing, and the intensive house allows of this in every way.

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Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*

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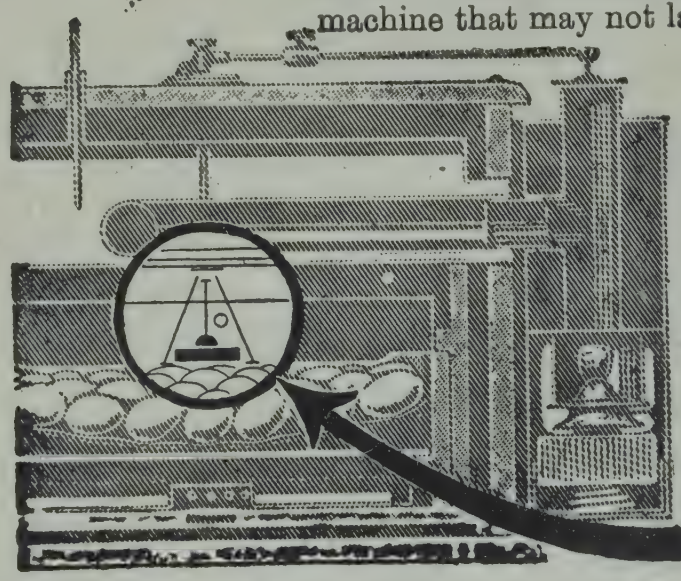

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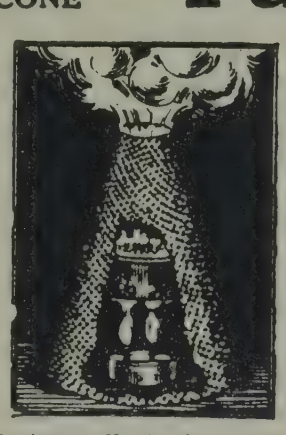

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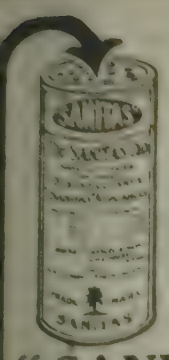

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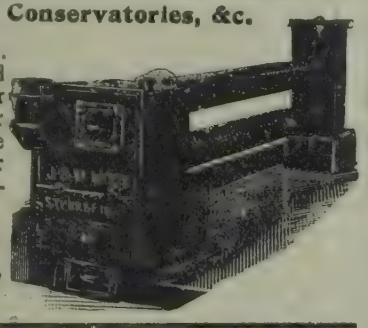

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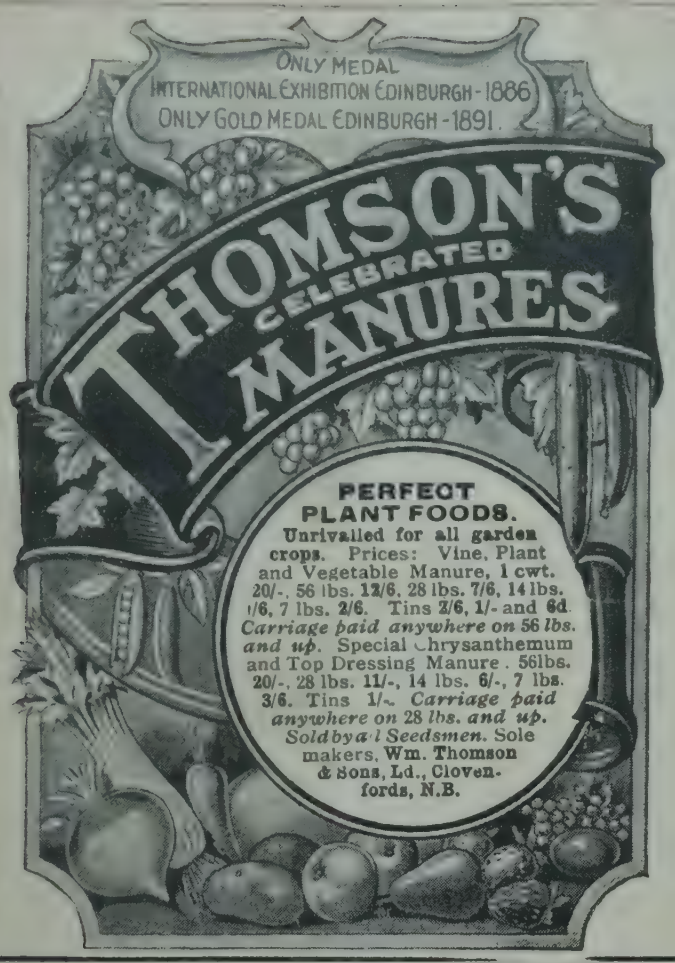
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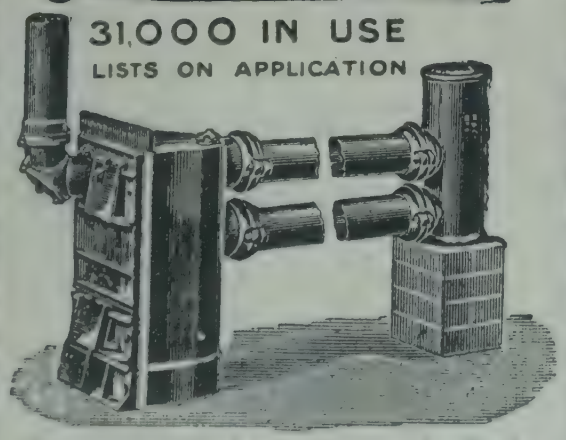

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AND POULTRY

VOL. LXXXI.—No. 2365. SATURDAY, MARCH 17, 1917.

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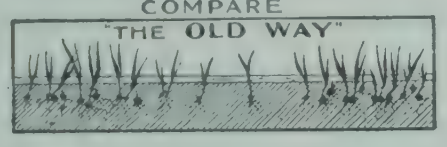

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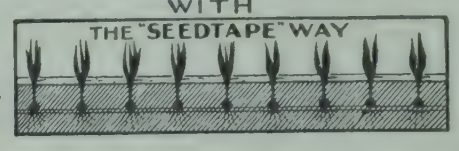

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Mid Early ...		12/-	King George ...		10/-
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Ninety Fold ...		6/6	White City ...		5/6
Hebron		14 lbs.	Queen Mary ...		14 lbs.
Puritan		3/6	Dates		3/-
S. Express ...		7 lbs.	King Edward ...		7 lbs.
Eclipse		2/-	Abundance ...		1/9
M. Ashleaf ...			Arran Chief ...		
Epicure			Table Talk ...		
Eating Potatoes, 14/- cwt.			Factor		

7lb. special, 2/6 C.P.

Bags free on rail, cash with order. Send for full lists. With every list I give my pamphlet, "How to Grow the Potato." Every order must be accompanied with following declaration :—"I hereby certify the seed potatoes ordered are required for seed purposes only." Try my speciality, 7lbs., any variety, 2/-, carriage paid by passenger train.

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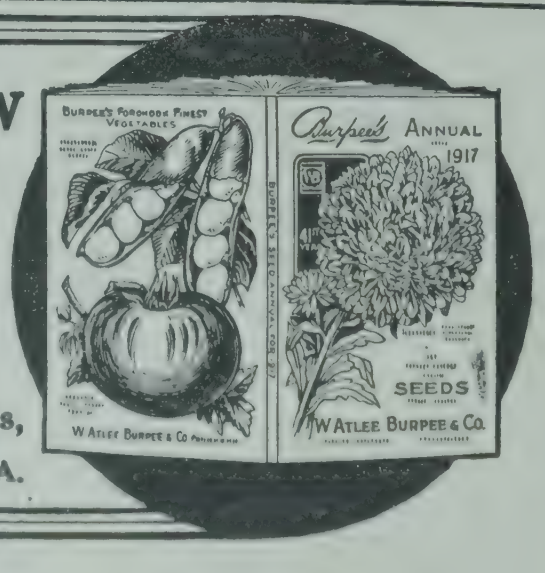

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Snowball Turnip, 2,000	Crimson Globe Beet, 200
Early Horn Carrot, 750	Lyon Leek, 400
Ailsa Craig Onion, 300	

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Hugh Dickson (hp),crimson 6d.
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12 roses of bushy habit, recommended for beds.

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Alpine Cotoneaster, evergreen.
Dub. Evening Primrose, yellow.
Pott's Stonecrop, pink.
Norbonne Flax, blue.
Upright Thyme, lilac.
Californian Rockfoil, white.
Isabel's Bellflower, blue.
Potter's Aubrietia, violet.
Ewer's Stonecrop, yellow.
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ESTABLISHED 1885.

THE GARDEN.

No. 2365.—Vol. LXXXI. March 17, 1917.

NOTES OF THE WEEK

THE references in daily papers to the value of Sugar Beet in reducing the quantity of sugar required for jam making have brought numerous enquiries from readers. It is suggested that as the shortage of sugar is likely to prevent most housewives from making jam next season, everyone should make a point of growing Sugar Beet. Mixed with the fruit and well boiled, not only is less fruit required, but it is stated that practically no sugar is needed. In the case of very sweet fruits like Strawberries, it is claimed that no sugar is needed, provided the jam is boiled separately and the pulp added, the proportion varying from one half to two thirds, according to the ripeness and sweetness of the fruit.

Sugar Beet Experiments.—We have had no experience in using Sugar Beet for jam making, and the only grower of this crop to whom we have referred expressed the opinion that it would not reduce the amount of sugar required in jam making to any great extent. We should, however, welcome the opinion of others on the subject. In recent years experiments have been conducted in England, notably in the Eastern Counties, in the hope of discovering whether it is possible to produce the sugar at home on a sound commercial basis. The experiments have been attended with more or less success. The smaller type of root contains the higher percentage of sugar (15 per cent. to 16 per cent is considered very good). The colour is generally white, both as to skin and flesh.

Destroying Nettles.—A correspondent points out that a better way of "destroying Nettles" than that recommended in the issue of March 10, page 80, is to boil and eat the clean young shoots in spring and early summer, as is done on the Continent. "Well dressed with salt"—but in the pan—they form a good substitute for Spinach. Now that more attention is being given to the growth of vegetables, let us hope that the deplorably wasteful way of cooking many of them in this country will at last receive the attention it so badly needs. Some of the edible fungi so often eaten in France, which are both nutritious and delicious, should be sought for in woods and elsewhere at the proper season and with due precaution.

Outdoor Tomatoes in Scotland.—*A propos* the notes on outdoor Tomatoes in The Garden of March 10, it may be said that outdoor Tomatoes are not much grown in Scotland. The greater austerity of the climate as compared with that of the South accounts for this; but there are exceptions to the general rule. In some places they are grown with comparative success. We recollect, for example, coming across a good break of Tomatoes in the open in an East Lothian market garden. Firmness of soil was evidently a great factor in enabling the Tomatoes to do well. The plants were sheltered somewhat by a range of glass quite near, and were trained to stakes. They were bearing big crops of large, corrugated Tomatoes.

Dutch Hyacinths.—No epithet has ever had more meaning in it than the word "Dutch" when used, as our grammars would say, as a qualifying word before Hyacinths. The modern fat-spiked plant was undoubtedly "made in Holland." What this means can best be realised by remembering that the start was a spike like a modern "Roman." For proof, look at the pictures of Hyacinths in the old Florilegiums. Then again, in true Dutch style it has had a little mania all to itself in the thirties of the eighteenth century, which was so frightening that the Tulip mania of a hundred years before was trotted out as an awful example. Then it is in Hyacinth land that so much of the Dutchman's capital is locked up.

Celery and Leeks in a Highgate Allotment.—Much first-class produce is grown by allotment holders, many of whom are not gardeners by profession, but men who have taken up the cultivation of a plot of land in their spare time. Indeed, it is not too much to say that occasional patches of vegetables or flowers, as the case may be, can be found on allotments that would do credit to the best of private gardens. The illustration shows a case in point. It depicts a vegetable corner, showing Celery and Leeks being given up-to-date attention so as to yield well-blanched heads and stems. The grower, a Council employé, has proved himself a prize-winner at the Highgate Allotment and Horticultural Societies' shows.

BLANCHING CELERY AND LEEKS IN A HIGHGATE GARDEN.

Keep Your Old Garden Catalogues.—Horticulture, already hard hit by the loss of labour, and a hundred and one different ways is now still further suffering by the new paper restrictions, which forbid the sending out of catalogues. May we suggest that amateurs and gardeners should keep their old catalogues for reference, as it is unlikely whether the trade will be permitted to print the usual Rose, bulb, fruit, herbaceous and seed catalogues for next autumn and winter.

**** Owing to the shortage of paper, readers who have not already done so are asked to order* The Garden *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Potatoes and Lime.—In reference to the article on "Potatoes and Lime" in the issue of THE GARDEN for January 6, I beg to say that in certain conditions of the soil lime is necessary, as an addition, to secure a crop of Potatoes of the best quality. Some years ago I came into possession of an old garden, and I remarked to the former owner that I should now be able to grow my own Potatoes. The reply was to the contrary: The garden would produce good vegetables with the exception of Potatoes, which were not fit to eat, being white, pasty and without flavour. Considering the matter from a chemical point of view, I concluded that the soil was in an acid condition, and that lime was necessary. I proceeded on these lines: I limed the Potato patch and got a result equal to the Channel Islands product year by year. The geological formation was that of the Elland flagstone or lower coal measures, and in my experience of these soils lime is necessary.—JAMES E. BEDFORD.

Home-Grown and Foreign Bulbs.—In any consideration of the future of the British bulb-growing industry, the fact that there are bulb merchants and flower-growers who are not necessarily bulb-growers must not be overlooked. Nor should it be forgotten that when prohibition orders are withdrawn the Government must seek for new sources of revenue; therefore it seems inevitable that duties will be imposed upon all imports, and particularly upon those classes of goods which may be grown in this country. But if such duties are imposed upon imported bulbs at the last moment, when necessity arises, it is possible that unless the trade is ready and has been consulted, the regulations may be unworkable. It seems, therefore, essential that this question should be considered at once in all its bearings, so that terms acceptable alike to the trade and the Government may be drawn upon. It is betraying no secret to state that three members of the committee of the British Wholesale Florists' Federation visited Mr. Walter T. Ware at Bath a few days ago to discuss this important subject. Mr. Ware has an exceptional knowledge of the bulb industry, and he is now happily in improved health. Mr. Ware's opinion—and it was soon shared by his visitors—is that if duties are imposed on imported bulbs, the basis of weight rather than number should be adopted. It would be useful and interesting to have the opinions of others on this interesting and important matter.—C. K.

Winter Spraying of Fruit Trees.—It seems a great pity that Mr. J. L. Gibson did not bring forward at the Royal Horticultural Society's Spraying Conference the evidence with which he says he could overwhelm me, *if he had time*. The learned and distinguished men then present were unable to adduce evidence either overwhelming or even distinctly encouraging. Mr. Gibson has thought fit to apply the expression "flagrant untruth" to two of my statements, viz., that well-managed but unsprayed trees cast their lichen and moss in the growing season, and that no spraying fluid will kill moths' eggs which is not strong enough to injure the tree. The first of these statements can be verified by anyone who will visit my orchards in winter and again in summer. The second I have verified by actual experiment, and one actual experiment is worth all Mr. Gibson's loose assertions which he "has not time" to prove. Moreover, as I shall show, it has been verified by authorities which even Mr. Gibson must respect.

As Mr. Gibson has, not very courteously, charged me with flagrant untruth, I will reply with no words or experiences of my own, but with a few short extracts from the printed report of the Spraying Conference (Journal of the Royal Horticultural Society, Vol. XXXIV., Part 3).

Mr. G. Massee, V.M.H., F.L.S.: "We have reached the point where spraying has become a commercial business altogether. . . . Many of the arguments brought forward in favour of spraying will scarcely bear examination. Evidence is absolutely of *no* value unless you have some of the orchard left for comparison. Spray half your orchard and compare notes. . . . We have as much disease in Great Britain at the present day as we had before spraying was discovered—that is, in proportion to the greater area. . . . No amount of spraying will kill the winter form of Apple and Pear scab."

Mr. H. F. Getting, F.R.M.S.: "I wish that some of the fairy tales which are sometimes advertised were facts; as a certain wash, which, it was stated, would destroy nearly all harmful insects and their eggs."

Mr. F. V. Theobald, M.A.: "As Mr. Spencer Pickering has said, the more you see washes boomed, the less you find of value in them. . . . Spraying is a costly process, and it should be cut down as low as possible. . . . The eggs of the Apple *Psylla*, so far as we can see generally, are not touched by the Woburn wash. There is *no winter wash* which will burn through and corrode the eggs of the winter moth or the lackey moth. We *must give up hope* of destroying eggs of *Psylla* and most other insects until someone comes along who will produce something so caustic that it will burn through the shell of an egg (and I assure you it will have to be very caustic), *without harming the tree*. If you take the egg of an ordinary insect, you have to soak it in caustic soda before the shell is destroyed. . . . If you treat fruit trees with the strong caustic washes year after year, I believe *you do the trees as much harm as the foreign growths*. . . . If you use caustic wash for the destruction of the eggs *it will have no effect, even when used at double the usual strength*."

Mr. Baker: "It is of little use trying to prevent insect attacks by spraying."

Sir F. Moore, M.A., V.M.H.: "I did not claim winter wash as a remedy against insects; I quite agree that *it does not kill insects' eggs; I have proved that by experiment*."

It appears, then, that several gentlemen of eminence in horticultural science have been telling precisely the same "flagrant untruth" as myself, and it is most desirable, in a question of such importance, that Mr. Gibson should find time to refute them with his "overwhelming evidence." Only it must be real evidence, and not just grand words about the benefits of spraying with no backing of proof. He must bring statistics of acreages sprayed and unsprayed and their respective crops. He must specify the fungi and *insect eggs* killed, and the cost of spraying compared with the receipts from the fruit. He must, in short, give us facts and not words.—G. H. ENGLEHEART.

—— Surely the Rev. G. H. Engleheart would not condemn all spraying! As a matter of fact, caustic winter washes have been largely superseded of late years by lime and lime-sulphur, used rather later in the season. In so far as insecticides are concerned, I know it would be impossible for me to grow a full crop of Black Currants most years without several sprayings to check aphides. The Gooseberry sawfly is another pest which is effectually controlled by the prompt application of a good contact wash, such as M'Dougal's Katakilla.—H. A. W.

—— Maybe the Rev. G. H. Engleheart has not moved with the times! At least he does not mention what form of caustic spray he has used upon his trees. The art of spraying has progressed in recent years, and the caustic soda, with its bark-binding and skin-burning propensities, has few adherents among those who make fruit-growing their profession. The spray fluid now so largely used is lime-sulphur, and, with those who have this outfit, plain hot limewash is greatly in favour. Mr. Engleheart refers to one pest only, but the lackey moth and its larvæ is not by any means the most serious pest the fruit-grower has to contend with. It is admitted by many that winter spraying will not destroy all the ova of insect pests, but Mr. Engleheart's test with lackey moth's eggs is no criterion. The Apple sucker is far a greater pest, for whereas the lackey moth caterpillar is visible to the eye and can be combated with poison, the Apple sucker is abroad before the leaf appears, and often, by its destruction of the flower clusters, leads many to imagine frost has ruined their prospects. Mr. Engleheart speaks of great standards, presumably old and unpruned. Possibly they are not worth spraying; but if he desires to see the efficacy of spraying over a series of years, let him visit some of the great Apple orchards of Kent. The late Mr. C. Miskin fought down the Apple sucker to zero by lime-sulphur, but he was not alone in this respect, for it is safe to hazard that the famous Apples which have played so prominent a part at the Royal Horticultural Society's fruit shows are not the result of non-spraying. Think of those wonderful Apples grown in the Sittingbourne district by men who grow fruit for a living, and consider whether they came by chance or were fought for. —T. A. W.

Pruning or Non-Pruning of Newly Planted Trees.—I have followed with interest the letters appearing in THE GARDEN *re* the above heading, and I entirely concur with what Mr. A. H. Pearson says as regards striking a balance between root and shoot. We are well aware that a tree makes as much growth underground as it does above—that is to say, the more branches a tree makes, the more roots there are in the ground—and when trees arrive from the nurserymen we invariably find they are minus a third of their roots, which have been lost in the operation of lifting, while at the same time the tree is carrying all its season's growth. To plant such a tree without first reducing its top growth by one-third to correspond with its loss of roots is to court failure, the result being generally a tendency to make fruit-buds instead of growth. By reducing the growth at the time of planting we equalise the balance between root and shoot, the result being a vigorous growth which enables us straight away to lay the foundation of a healthy and vigorous tree. In my opinion it is a great mistake to plant trees deeper than 6 inches; nearer

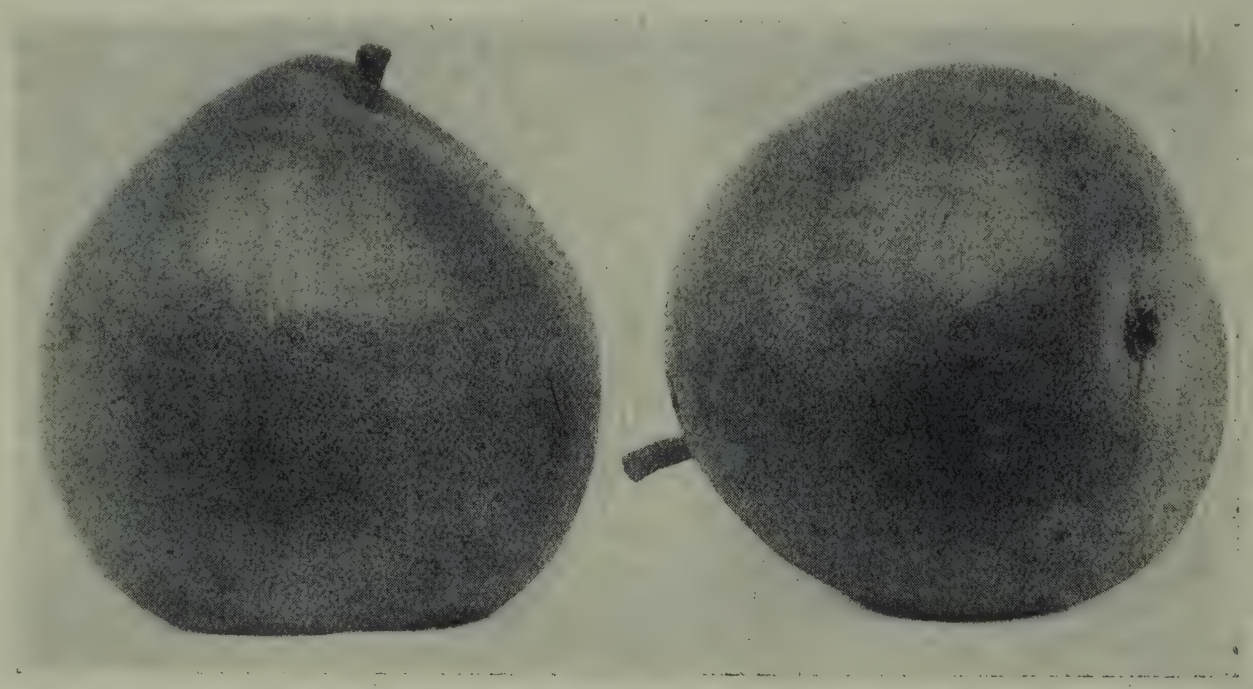
the surface in some soils. If the trees are fed on the surface and properly mulched, there is no tendency on the part of the roots to seek food in the colder strata of soil, which is invariably followed by gross, sappy wood, canker and non-productiveness. I also find in the training of single cordons that there is no need to cut the leader or main shoot back unless it ends in a fruit-bud or unripened wood. My plan is to bend the tips down in a loop, similar to young Vines, till the buds begin to break, when we tie them up in position. By this method we have no bare space on the stem, and, what is of equal importance, no rank growth follows; the sap is so equally distributed that what would eventually be turned into gross wood invariably ends in fruit-buds. Any tree showing a slight tendency to grossness is lifted and replanted, the operation ending in fruitfulness.—THOMAS P. P. MACPHAIL (Horticultural Superintendent, Swanley Horticultural College), *Swanley, Kent.*

—— I have been much interested in the correspondence concerning the pruning of newly planted Apple trees. During the last six years I have planted over 5,000 bush Apples, and have not had occasion to regret pruning them soon after planting—this on a light, friable soil, in which trees soon establish themselves and under anything like favourable conditions make good growth the first season. On a heavy clay, such as I used to farm, I should be more chary of pruning the first season. It is even more difficult to find, on a tree that has been cut back and only made a few inches of spindly growth, a growth bud in the position required than on a tree that has been left unpruned.—H. A. W., *Ross.*

—— I am grateful to the readers of THE GARDEN who have replied to my notes on the "Leaving Newly Planted Fruit Trees Unpruned," issue February 17, page 57. The correspondence is very interesting and instructive, and calls for practically no reply upon my part, except, perhaps, the remarks of Mr. Molyneux, one being that readers of THE GARDEN do not expect that a fruit tree pruned after planting will produce blossoms in May. Readers of this journal may not do so, but I have come into contact with amateurs who have this belief. The second is that an Apple pruning, such as is taken for a scion, *will* produce leaves, and, in the case of the *Cherry*, blossoms in the following spring, without a vestige of roots. The fact that such cuttings died later does not affect the point that sufficient sap is stored in the twig to effect this result. I think that Mr. Pearson hits the bullseye when he says that there is very little difference to choose between the two systems in the long run, provided the trees are correctly pruned after they have become established in their new positions. And it depends upon how the trees are planted. If carelessly planted, the result will be the same by either system.—CLARENCE PONTING.

—— I have been much interested in the discussion on this subject in THE GARDEN, and it is one that cannot fail to interest fruit-growers. At different times I have pruned fruit trees the first season of planting, and deferred the pruning for a year in some cases; but I have no hesitation in advising planters who may be in doubt to prune the first year, and fully endorse the remarks of Mr. Molyneux and Mr. Pearson on the subject. Last year I had occasion to plant some standard Apples at Batsford in Gloucestershire, and the work was not done until February. The trees were planted in grassland, and had a space around them kept cultivated. I pruned them in April, when the buds were swelling, and they made admirable growth for the first season. The shoots varied in length from 10 inches to 18 inches, which I consider was good under the circumstances. Had the trees not been pruned, but left for a year, a year's growth would have been lost; so that under proper treatment I do not think there is any good reason to defer pruning the first year, and I feel sure all growers would be well advised to prune newly planted trees at the present time.—3615 Private J. GARDNER, 1/7 Devonshire Regiment, *Hollesley, Suffolk.*

Pear Gansel's Bergamot.—This fine Old English Pear seems to have fallen upon evil days; but in some of the old-fashioned gardens in this neighbourhood, where even now quality is the chief desideratum, it is still greatly prized. Anyone who has tasted it when perfectly ripe and in good condition cannot fail to come to the conclusion that, as far as quality is concerned, it is the best of all autumn Pears. The tree is a bad grower, but a profuse bearer when established, and the fruit, which is of medium size, Apple-shaped and russety, is melting and of a most rich and delicious sub-acid flavour. Those who do not know this Pear should try some grafts of it on a strong-growing variety, as by this means its poor growth can be considerably improved; and, in my opinion, sorts like Gansel's Bergamot are well worthy of any trouble to obtain. Curiously enough, I came across a note the other day in an old copy of the *Gardeners' Chronicle* for 1879, signed "William Culverwell," in which the writer stated that his trees of Marie Louise "ingrafted on Gansel's Bergamot are great bearers and the fruit grows to a great size—the stock in this case having a wonderful influence on the quality of the fruit." That grand old gardener, the late Mr. W. Wildsmith of Heckfield, who used to contribute to THE GARDEN in its earliest days, once wrote that in his judgment Gansel's Bergamot was one of the six best Pears, the others being Marie Louise, Duchesse d'Angoulême, Josephine de Malines, Winter Nelis and Glou Morceau. The fruits from which the illustration was made were grown at Hartlebury on a tree which is planted in a good rich loam.—A. R. GOODWIN, *Kidderminster.*



GANSEL'S BERGAMOT, AN OLD PEAR OF DELICIOUS FLAVOUR.
(*One-half natural size.*)

THE ALLOTMENT WEEK BY WEEK

BY A. CECIL BARTLETT.

I HAVE many times been asked if, where the digging is unavoidably delayed, Potato sets may be planted as the digging proceeds. Although this practice is more suitable for land which has been cultivated regularly, it will pay better to practise it when breaking up grassland than to be unduly late in planting the sets, for late planting increases the danger of a light crop through the ravages of disease. The best procedure is to place the surface skimmings of grass and roots in the open trench, then dig the stripped ground rather more than half the customary spits deep, leaving sufficient soil to cover the Potato sets which are to be placed in the partly filled trench. For this work the beginner should work with two lines, one to keep the digging line straight and the second to ensure straight rows of Potatoes. This method of planting when digging is not suitable for sprouted sets as the growths would be broken by the covering soil; so only unsprouted tubers should be used. Except in localities which suffer from April frosts, this method of planting could be started at once and continued at intervals to the middle of April.

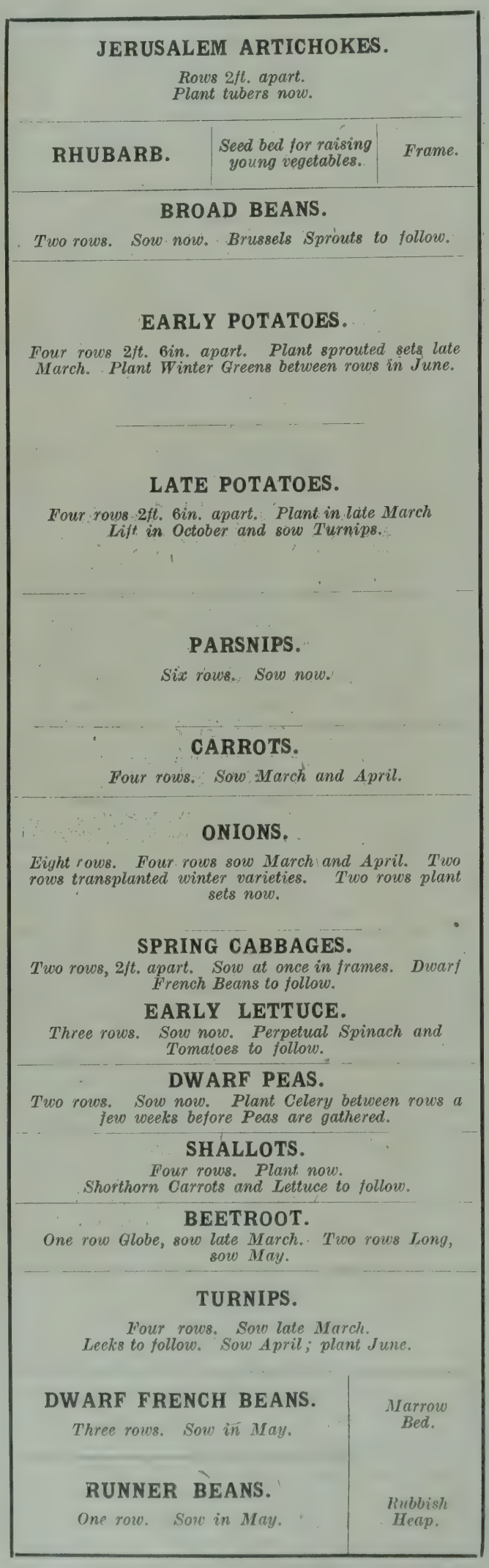
Seed-time is now in full swing, and sowings should be made of most kinds of vegetable; but, on the principle that it is not wise to put all one's eggs in the same basket, the needed quantity of each sort should be sown at short intervals rather than in bulk. This plan not only helps to ensure a good average crop, but also permits the remedying of initial mistakes which the beginner will probably make. The length of interval between the sowings should be regulated by each vegetable. Onions, which require the maximum of the sunny months, should have short intervals, while Beet, which is a tender crop, may well be spread over three weeks. It is usual to sow in bulk Parsnips in February, and Carrots in March and early in April. This method is satisfactory when these roots have to be produced in large quantities irrespective of

high quality, but those who prefer them tender and succulent will find it much better to sow small quantities of seed at fortnightly intervals until the end of May in the case of Parsnips, and up to the first week in July with Carrots. The Student and Hollow Crown are good sorts of Parsnip for general cultivation, while of Carrots the early and late sowings should be of such stump-rooted varieties as Early Nantes and Early Horn, and for the midseason sowings James' Intermediate and Altrincham are both good. In all cases seed should be sown very thinly, to effect economy as well as to obtain better and sturdier seedlings. The Carrot seeds should be rubbed between the hands so as to readily separate them. The severe frosts have destroyed a great many autumn-sown Cauliflowers, but if plants can be obtained it will be well to set out some and also a few rows of autumn-sown Onions. In both cases plant firmly, but do not set the Onions too deep, or they will develop long necks at the expense of their bulbs. The correct distances between the seed rows are: Onions and Carrots, 1 foot; Beet and Parsnips, 1 foot 6 inches.

CROPPING A 10-ROD ALLOTMENT

IN cropping an allotment this year allowances have to be made for some very unusual and disturbing circumstances. In the first place, the shortage of seed Potatoes is certain to throw many an allotment holder out of his reckoning. To allow for this, additional space should be given to Jerusalem Artichokes and Parsnips, both of which are excellent substitutes, and may be expected to give good returns in newly broken land. Then we have to replace the spring Cabbages, Lettuces and winter greens that have been destroyed by the exceptionally severe weather. To do this it is advisable to sow at once such quick-growing Cabbages as Earliest of All, Flower of Spring and Harbinger, also Lettuce Commodore Nutt. These should be sown under glass, for which purpose a garden frame will come in very useful. If the seedlings are brought on quickly they will be fit to use almost as soon as those planted in the autumn. The young Cabbage heads may not be so firm and tightly packed as those which stand the winter, but when cooked they will prove more tender, milder in flavour and of better colour. The quicker a Cabbage is grown, the better it is on the table. Dwarf French Beans may be sown in May between the Cabbages, removing the latter as soon as they become ready, to give space to the Beans.

Advantages of the Onion Set.—Where autumn-sown Onions have been badly damaged by frost, recourse should be had to the Onion sets now offered by many of our leading seedsmen—half a pound will be sufficient for the average allotment holder. As it is only within the last two or three years that Onion growing from sets has become popular, it may perhaps be as well to explain that the "set" is a small, specially ripened bud—much smaller than a "pickler." These pigmy bulbs should be planted on the first sunny day when the soil is in friable condition. Plant them about 1½ inches deep and 6 inches apart, and as they reach maturity remove the soil from the bulbs to assist their ripening. This novel method of growing Onions has its advantages. In the first place, there is a strong plant to start with and one is relieved of any anxiety about germination; the sets, being hard-skinned, escape the ravages of the Onion fly. Good-sized bulbs may be grown this way, the crop is earlier, while heavy manuring is unnecessary. Moreover, the Onion is not the best crop for growing on newly broken land, but when it is decided to attempt its cultivation, Onion sets should be used in preference to seed. The bulbs should be lifted for harvesting when fully grown, usually about mid-August, the space being immediately planted with Winter Spinach. The same rotation applies to spring-sown Onions.


JERUSALEM ARTICHOKES.
Rows 2ft. apart. Plant tubers now.
6ft.
RHUBARB.
Seed bed for raising young vegetables.
Frame.
4ft.
BROAD BEANS.
Two rows. Sow now. Brussels Sprouts to follow.
4ft.
EARLY POTATOES.
Four rows 2ft. 6in. apart. Plant sprouted sets late March. Plant Winter Greens between rows in June.
20ft.
LATE POTATOES.
Four rows 2ft. 6in. apart. Plant in late March Lift in October and sow Turnips.
PARSNIPS.
Six rows. Sow now.
8ft.
90ft. 9in.
CARROTS.
Four rows. Sow March and April.
4ft.
ONIONS.
Eight rows. Four rows sow March and April. Two rows transplanted winter varieties. Two rows plant sets now.
8ft.
SPRING CABBAGES.
Two rows, 2ft. apart. Sow at once in frames. Dwarf French Beans to follow.
8ft.
EARLY LETTUCE.
Three rows. Sow now. Perpetual Spinach and Tomatoes to follow.
DWARF PEAS.
Two rows. Sow now. Plant Celery between rows a few weeks before Peas are gathered.
4ft.
SHALLOTS.
Four rows. Plant now. Shorthorn Carrots and Lettuce to follow.
4ft.
BEETROOT.
One row Globe, sow late March. Two rows Long, sow May.
4ft.
TURNIPS.
Four rows. Sow late March. Leeks to follow. Sow April; plant June.
6ft.
DWARF FRENCH BEANS.
Three rows. Sow in May.
Marrow Bed.
5ft.
RUNNER BEANS.
One row. Sow in May.
Rubbish Heap.
5ft. 9in.
30ft.

Intercropping Potatoes.—Speaking generally, the Potato is by far the best crop to grow on a newly broken piece of ground, and if the allotment holder is fortunate in getting sufficient seed Potatoes he should devote at least half his plot to this crop. Early Potatoes are to be preferred to maincrop and late varieties for the allotment, since they may be lifted early and so give winter greens a fair chance for development. With early Potatoes planted in rows 2 feet 6 inches apart, as shown in the accompanying plan, such winter greens as Brussels Sprouts and Kale should be planted between the rows after the Potatoes are earthed up. The Potatoes are lifted in June and July, and the greens, which by that time have been planted a few weeks, have a fair chance for development. I have often seen it recommended to plant Brussels Sprouts, Kale and Broccoli between alternate rows of maincrop Potatoes, so that the haulm may be put back in the vacant gully to avoid overcrowding. Maincrop Potatoes are not usually lifted until October, and unless the rows are more than 3 feet apart the greens are certain to be overcrowded and smothered up by the vigorous haulm of the Potatoes. There is nothing gained by such attempts and it is far better to wait until the Potato crop is cleared off and then sow with Turnips.

Beetroots and Carrots are two of the worst crops for growing on newly broken ground, particularly if there is any wireworm about, and in such cases the additional space might be devoted to Parsnips, Peas and Beans, that is, providing the soil has been deeply worked. If

Broad Beans, either Windsors or Longpods, are sown at once, the crop should be cleared off by the end of July, when the land should have a good dressing of stable manure before planting the Brussels Sprouts. The Broad Beans, as shown in the plan, are in rows 2 feet apart, and if the season is late the Brussels Sprouts should be planted between the rows before the Beans are gathered; and as soon as the pods are gathered the stems should be removed to allow the light to reach the Brussels Sprouts. In a like manner

Celery may be planted in trenches between the rows of dwarf Peas a few weeks before the Peas are cleared off, while, later still, Lettuce plants might be planted along the sides of the Celery trenches, or, if desired, Leeks might be grown in the place of Celery. Seedlings of both Celery and Leeks should be raised towards the end of the month or in April and pricked out on to a good bed, where they should be kept growing steadily until planted in their final quarters. H. C.

SEED-TAPE

IT may be of some interest to readers of THE GARDEN to know that the novelty of sowing seeds on specially prepared tapes, first noticed in THE GARDEN of July 22, 1916, page 353, as the "latest American idea"; subsequently, in THE GARDEN for August 19, page 402; and, lastly, in the issue for September 2, 1916, has been further developed. From the above notices it would seem that the system had been tried with success not only in America, but also in Italy and, lastly, in this country. It seems now to have extended to our West Indian possessions, for in the issue of the *Agricultural News* of Barbados for January 27—which is one of the official publications of the Imperial Department of Agriculture for the West Indies—the following paragraph occurs under the heading of "Seed-tape":

"Several trials have been made locally with Seed-tape, the newly invented method of planting seed. The tape consists of paper treated chemically, and the seeds are enclosed and placed more or less equally distant from each other. In planting the tape in the soil, it is necessary to water very thoroughly. Many advantages are claimed for this method of seed planting, the chief of which is the fact that the whole tape being planted, and the seeds correctly spaced in the tape, it eliminates the thinning out and transplanting process. It is understood that the tape is highly fertilised, which should stimulate the growth of the seedlings, and it is claimed that the seed, being enclosed, should to a certain extent be protected against destruction by ants during the period of germination. Each seed is guaranteed to grow, and certainly it must be admitted from the trials that have been made locally that the germination is very satisfactory indeed." It is likely that Seed-tape will become more and more adopted for garden work, and it seems especially well adapted to tropical conditions, particularly on account of the fact that the seeds are protected from ants, which constitute such a troublesome pest. Moreover, planting seed by the tape method involves a minimum of labour and trouble. J. R. J.

SPROUTING BROCCOLI

EITHER the purple or the white variety of the above forms one of the most useful and appetising of all vegetables in early spring, and, when properly grown, few will dispute the right of this to be classed among the most profitable vegetables of easy cultivation. But if the heads are to attain the size one is accustomed to see in gardens where a good system of cultivation is followed, it is imperative that the plants should have as long a season of growth as possible; hence the importance of getting these into their permanent quarters as early as possible.

Owing probably to the fact that all of this family prefer a firm to a spongy rooting medium, many timid growers are afraid to dig, even to add manure to poor ground intended for these; hence the reason why we see so many miserable apologies for what a Sprouting Broccoli grown under good conditions really is. Give firm soil by all means, but do not lose sight of the fact that something beyond this is required if the plants when fully grown are to be a yard across and the sprouts equal in thickness and table quality to first-class Asparagus, for which vegetable these are a grand substitute. Such may be expected to follow if the plants are put out at once on well-manured ground trodden fairly firm before planting, a distance of 30 inches allowed between the plants, and plenty of moisture given to the roots throughout the summer and autumn months. F. R. C.

APPLE ANNIE ELIZABETH

ABOUT the year 1866 a Mr. Gretoreux, a solicitor of this town, brought for our inspection and opinion a dish of a seedling Apple, which he stated he had raised from seed from a fruit of Blenheim Orange. We were at once interested in it, as we found it excellent in form, colour, size and quality, also a good keeper. We inspected the tree growing at Knighton the following summer, and found it a sturdy grower, making a fine standard; also a good cropper, with fine foliage and vigorous habit. The original tree is still standing. The following season being a warm, dry summer, the fruit was very attractive and abundant, so we decided to place it before the fruit committee of the Royal Horticultural Society, who awarded it a first-class certificate. We are pleased to know that it has now become very popular and largely grown.

Some of our friends have asked why the name was chosen, as it is anything but a child-like fruit. The explanation is this: The gentleman, who was an enthusiastic gardener, was married, for the second time, rather late in life, and had a daughter born to him after he was seventy years of age; but, unfortunately, the child died, at which he grieved very much, and desired to name the Apple after her as a memento. He kindly gave us a photograph of the seedling tree, his wife and himself, and I have the pleasure of sending it to you for reproduction. JOHN HARRISON, F.L.S.

THE ORIGINAL TREE OF APPLE ANNIE ELIZABETH.

DRY WALL GARDENING AT MOUNTON HOUSE.—II

By H. AVRAY TIPPING, M.A.

THE importance of planting the dry wall as it is being built was laid down last week. That means that the whole of the planting material must have been got ready preparatively and that a suitable season is chosen for the whole work. The dry wall I am describing was erected and planted in October, 1912, and was a mass of greenery and bloom by the following April. The intention and date of erection had been known a twelvemonth before, and therefore a planting scheme was got out and the right selection of plants got ready mostly by home propagation, but partly by obtaining from the nurseryman a few desired items that the reserve garden did not already possess. These were got by the dozen, as grouping rather than dotting was the effect aimed at. They were the only direct expense of the wall, for the stone and soil were provided and hauled by the estate, while all the work of preparing the plants and making the wall was carried out by the head-gardener and one or two labourers. The plants were all brought on to the ground and set out handily, in accord with the planting scheme, just behind the actual building line—that is, the space needed for the operation and for the dumping of the requisite stone and soil. As each tier of stones was laid, the right plants could be laid in between and upon them, the roots often stretching back a whole foot into the prepared soil behind. There is always the after-work of preventing robust plants from smothering the more reticent ones next to them. But this oversight can be made much less constant and considerable by taking thought over the original planting. Growth on these vertical surfaces is much greater downwards than upwards or even sideways. Do not set an Androsace under an Arabis, a Lewisia under a Helianthemum. Near the top of the wall is the place for such choice little individuals, not only to save them from being drowned under a cascade of greenery, but also as being nearer the watchful eye of their protector. But to have the lower half a luxuriant tangle and the upper half a set of isolated dots would be ugly and artificial. There must be, at or towards the top, a fair quantity of vigorous plants spreading out and sweeping down, and yet amenable to discipline. I find nothing better for this than Creeping Rosemary, that child of the Riviera which in a sunny spot with vertical treatment is perfectly happy in Southern England.

CREEPING ROSEMARY.

Many such are wont to stretch their fragrant, evergreen length down the Mounton dry walls, all studded in spring with pale lavender blooms as the illustration shows, taken, however, from a specimen not on the wall, but on a rock face. I have often lost plants during a winter of alternately warm wet and harsh cold, when planted on the flat, but never when set in a dry wall or rock chink until this very exceptional winter, which has destroyed them even in such situations. Fortunately, it is very easily propagated by cuttings, and I have excellent young plants in a frame which in a couple of years will again give me sturdy weeping bushes hanging a yard down. Such cascade effect is very striking both in and out of bloom, and so the position chosen should enable it to be assumed without curtailment of length, but the pruning-knife can well be used to lessen the width of the plant if it is endangering a desirable and weaker neighbour. A vertical position saves many a plant from succumbing from the sharp snaps that fall suddenly and repeatedly after enervating winter damps. Hence, near the dry wall top, where there is light and dryness, are set colonies of Androsace—such as lactiflora and Chumbyi, lanuginosa and sarmentosa. Lanuginosa grows healthily but reticently and has the merit of a very long flowering season, whereas sarmentosa spreads weedily but has a short, if brilliant, bloom burst. Again, the Onosmas, both tauricum and albo-roseum, suffer exceedingly from frost coming on the top of wet. Even vertically placed the plants are apt to be considerably killed back before spring comes, although even this winter they have not been completely done to death. They are rapid growers and soon recover from partial dismemberment. Albo-roseum, with grey foliage and white, pink-edged flowers, is the rarer, but the rich, long-lasting, butter-coloured bells of the Golden Drop, well shown in the illustration, make it the most showy and useful member of the family. With vertical treatment I get such half-hardy subjects as Sphæralcea Munroana and Convolvulus mauritanicus to withstand the winters normal in these parts. The former is of the Mallow family, a trailing plant with much-divided silvery leaves and cherry pink flowers. When it lives several years it covers a square yard of ground and has a thick, fleshy stem. That is where the delicacy lies. The stem will bear only a certain amount of frost and no new shoots will spring from its base. I have not the least doubt but that every plant in my walls is now dead, for we have had no such winter since 1895. From November 15 to February 17 the exposed glass kept above freezing point on only ten nights, and on February 7 it fell to 8°. No self-respecting "half-hardy" can be expected to withstand 24° of frost, and I anticipate losses. In the case of the Sphæralcea I always put some cuttings in a pan of sandy soil in a frame, and also of the charming blue-flowered Mauritanian Bindweed, and so I can replace the defunct parents. But in these times of shortness and inefficiency of labour for the garden there has been very little time for propagation, and many gaps are likely to remain unfilled. But Diascia Barberæ shows every intention of surviving. This delightful little thing appeared some years back in many seed lists as a half-hardy annual, and as such I tried it. It formed small tufts, in character like a very dwarf bedding Lobelia, which began to develop its cherry pink, two-horned blooms in August. But, to my surprise, I found in the following spring that some plants set at the edge of a dry wall, and therefore in a hot, dry, well-drained position, were shooting up. They spread rapidly and formed patches a foot across, flowering early in the summer and producing fresh bloom-heads till autumn. It has proved a true perennial during the four years that the dry wall which we are now discussing has been in existence. The patches have steadily increased their extent, even to the detriment of their neighbours, and the root-stocks starting from the flat on the top of the wall have pushed down and sent out shoots from the vertical crannies, as may be seen above the Onosma in the illustration. It is in some such positions that I hope and believe it will survive, for even seed is not now easy to get, as it has ceased to appear in most lists of annuals. Yet it has attracted universal attention here, and is one of the plants that I am really wearied of spelling out the name to visitors who declare they must grow it. It is dwarf and upstanding, resembling some of the little Linarias, but has two spurs or horns instead of one.

Although the wall garden is broadly treated and does not contain "a bit of everything," I need not

give a full list of its denizens. There is a selection of the Dianthus tribe, from single types of plumarius down to little cushions of alpinus. There is not only the diminutive Erodium illustrated last week, but some of its larger cousins, such as guttatum and macradenum—only the coarse, ill-coloured Manescavi is banned. There are selections of Houseleeks, of the red Mossy Saxifrages, and of the Creeping Phloxes. These, being of comparatively reserved growth, have place in the upper half of the wall. Below them are Iberis and Helianthemum and a few other strong-growing types, among them two rapid growers that want hot sun and poor soil to make them flower freely. They are Zauschneria californica and Malvastrum lateritium, excellent subjects for late effect, for they begin blooming before July ends and continue into late autumn. The Malvastrum sends out long shoots that root in the gravel path running at the base of the dry wall. Its rampancy is easily curtailed, but not so that of the Zauschneria, which spreads underground and upwards, bursting out on the top of the wall and needing much excision of its woody stems and roots.

Last season was, perhaps, exceptionally favourable. Certainly the dry wall had continuous interest from March to November, and often for weeks together was a blaze of bloom.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—Preparations should be made in favoured districts for planting the main batch. If any compost such as wood-ashes, decayed vegetable refuse, or old potting soil is to be used, have it prepared in a dry shed; this will facilitate planting when the time comes. The tubers now on end in boxes should be examined, removing surplus shoots; two stout sprouts are ample on each tuber.

Spinach.—Make a sowing of the Round-leaved variety between rows of Peas or Broad Beans, or on a south border in drills 1 foot apart, for an early supply.

Peas.—Make successional sowings of second-early varieties such as Duke of Albany or Gradus, not forgetting Goldfinder, which is the best I know for giving a huge crop of large, highly flavoured Peas. Where the soil is heavy and naturally retentive of moisture, a little light compost scattered at the bottom of the drill will do much towards hastening the germination of the seed, and perhaps avoid the rotting of the seed of some Marrowfat varieties.

Seakale.—Make a plantation of the thong-like roots taken when lifting the crowns for forcing and cut into lengths of 6 inches or 8 inches of the size of the small finger. Plant these in rows 15 inches apart, allowing 1 foot between the plants, just burying the crowns only. Dig the ground deeply as planting proceeds; this is best done with a dibber.

Turnips.—A small sowing of Early Milan may now be made on a warm border, covering the seed lightly with wood-ashes.

Horseradish.—To obtain the best results, this crop should be replanted every third year at least. Too often it is left undisturbed until very few good roots are obtainable. Any open site will grow good Horseradish, providing it is not under trees and the soil is well and deeply manured. The same site will suffice for many years if all the small pieces of roots are removed when digging the plot for planting. Select straight roots with a crown, and plant them a foot apart and 6 inches under the surface.

Carrots.—If the weather is suitable, lose no time in preparing the soil for the sowing of seed of Short Horn and a pinch of Intermediate Carrots for the first crop, even if it is only an odd row or two.

Vegetables Under Glass.

French Beans.—Make sowings of larger-growing varieties where space permits, five seeds in a 4-inch pot, to be transferred to 8-inch pots later on. The smaller seed-pots now occupy less space, and the plants grow away better than if they have too much water in the larger pots at sowing-time.

Cucumbers.—Promptly pinch the shoots above every second leaf, and thin the fruits to one on a joint to avoid overcropping, which is a fatal mistake at this early stage. Top-dress the roots as they show through the soil, as an encouragement to more vigour; water carefully with weak liquid manure, and avoid excessive atmospheric moisture.

Mushrooms.—Make up more beds as fast as the manure is prepared. Do not allow beds in bearing to suffer from the want of water. Give a thorough soaking in preference to sprinklings, which do not moisten the base of the roots.

Asparagus.—Lift old roots from beds the outsides of which have become exhausted, lay them thickly on a gentle hotbed in a frame, cover with 2 inches of light soil, and keep the frame well covered at night to maintain an even temperature of not less than 55° or 60°.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsnips.—In some establishments this nutritious vegetable is not appreciated as its excellent qualities merit, not to speak of its utility during the winter months when vegetables are none too plentiful. Parsnips require a good, deep, well-cultivated soil which has been well manured for the previous season's crops. Sow the seeds in shallow drills 18 inches apart, and afterwards thin out the plants to 9 inches apart in the rows. Where specially fine roots are desired, holes are often made with a crowbar and then filled with a well-prepared compost, and the seeds sown over the centre of each hole.

Jerusalem Artichokes are another useful winter vegetable, and to obtain the best results should be planted in a sunny position sheltered from strong winds. Plant in rows 2½ feet apart, allowing 1 foot between the tubers, and about 5 inches deep. The work should be done now, provided the ground is in good condition.

Lettuces.—Transplant autumn-sown batches of these into cold frames, shade from strong sunshine, spray occasionally with tepid water, and encourage a steady growth. Sutton's Favourite is an excellent variety for this purpose.

Fruit Under Glass.

Strawberries.—Early batches of these will now be swelling their fruits, so should now receive some stimulant. A little manure-water given twice weekly will prove beneficial. If the plants are in a forcing-pit, some may be moved into a cooler house as the fruit begins to colour, as this gives the berries a much better flavour. Support should be given the fruit-trusses, twigs of Birch being very suitable for this purpose.

Plants Under Glass.

Half-Hardy Annuals.—Sow Stocks, Asters, Phlox Drummondii, Zinnias and Verbenas in gentle heat. After germination takes place, keep the seed-boxes near the glass so that the seedlings may be dwarf and sturdy before pricking out into frames.

ONOSMA TAURICUM.

The Flower Garden.

Sweet Peas.—A sowing may be made in the open about this time. Do not sow too thickly, as overcrowding in the seed lines causes weakly growth and checks development. When the seedlings show through the soil, give a liberal dusting of soot; this will ward off attacks by birds and mice.

The Herbaceous Border.—The majority of bulbous plants will now be showing through the ground, so that the work of putting the hardy flower borders in order may be proceeded with. Where a top-dressing of leaf-mould has been given, it should be lightly forked in; but in the case of borders which have been trenched and replanted the previous year, no top-dressing is thought necessary, and so for this season, at any rate, they will have the surface run over with a "Buco" Cultivator, a lesser-sized implement being used among the smaller subjects near the front of the border. Some wood-ashes placed round the crowns of Delphiniums, Gypsophila and other plants for which slugs have a liking will be to their advantage.

Digitalis alba.—A large quantity of plants of this which have been grown in the nursery will now be distributed through the pleasure grounds here, bold clumps by the lakeside or on the margin of woods being very striking. On our heavy soil they do not naturalise freely; hence the precaution is always taken to grow a quantity yearly.

James McGran.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

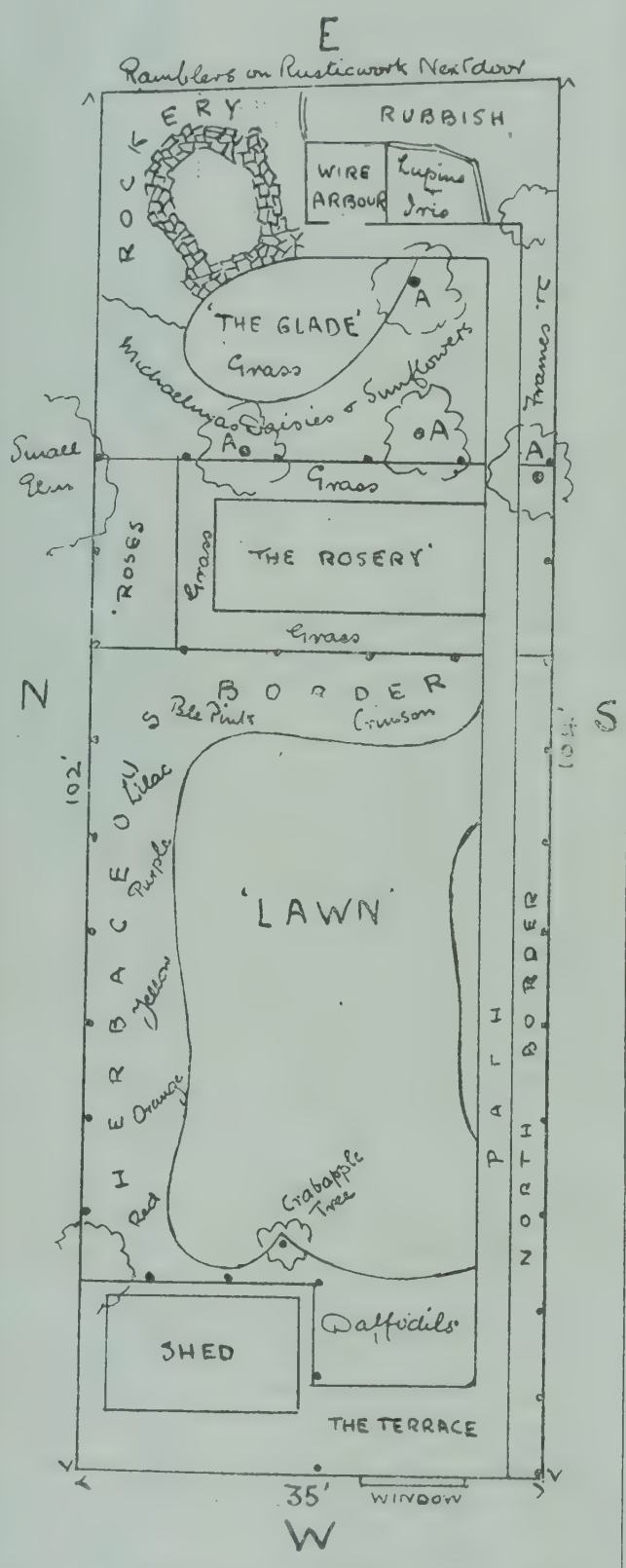
THE VILLA GARDEN

MAY I add to those you have already published the plan of my little garden, where some attempt has been made to achieve balance and form without the rigidity apparently imposed by the four-square fashion of the urban enclosure? I have also tried to oust monotony with variety, and at the same time to avoid a jumbling of distinct gardening features. I am pleased to call the space outside the French windows of my back parlour the "terrace," because it provides a convenient place for tea. Next is a bed devoted to Daffodils in the spring and annuals in the summer, the latter growing as the former die down. Then there is a patch of grass grandly labelled "lawn," surrounded on the sides facing south and west by a border at least 6 feet wide, which is the home of herbaceous plants arranged with due regard to colour and season, and giving the greatest display in June, July and August. The narrow north border is full of Ferns, Columbines, Anemones, Phloxes, Lupines and other shade endurers. All this part is enclosed by Larch posts and purlins, supporting festoons of rambling Roses, Clematis, Honeysuckle and other climbers. The "rosery," 12 yards by 5 yards, also enclosed by Ramblers, is full of the bloom and fragrance of Roses, Violets and Pansies only. Up the path, past a few frames, and round the corner brings you to the "glade," where an oval plot of grass is in the midst of autumn flowers, chiefly Michaelmas Daisies and Sunflowers, the tallest next path and fence. Four Weeping Ashes screen the neighbours' windows and provide shade. In the further corner is a small rock garden with sufficient nooks and corners for quite a collection of the less rampant alpines; while the other corner is devoted behind the rustic screen to rubbish, &c., and in front to purple Lupines and bronze Irises for the merry month of June. The path is narrow and straight, which is annoying; but it was here when I came. I have tried to destroy its effect by the narrow bed on the right of the lawn and by using it, beyond the rosery, merely as the way to the glade. Although no strict rule is observed as to colour, apart from harmony, the strong tints are grouped according to shade.—ANOTHER AMATEUR.

I CANNOT too strongly deprecate the scornful attitude taken by "Formakin" with regard to the villa garden in your issue of February 3. It was a greater than "Formakin" who wrote of gardening that it is "a pleasure of the greatest, and the ease of the *meanest*, and indeed an employment, and a possession for which no man is too high or too *low*," which seems quite sufficient reply to his tirade against what is the one healthful, pleasant and absolutely harmless interlude in the monotonous lives of many thousands of office and shop weary workers.

Mr. Morley Horder, in his courteous reply to my remarks in your issue of February 3, raises points that are well worth consideration and discussion. I must, however, disclaim any intention of offering a plan that could be adopted as a "general formula." Heaven forbid that I should ever do anything so utterly at variance with the true spirit of gardening. Gardening is purely an individualistic pursuit, controlled by certain natural laws. That a group of plants grows, flowers, or fruits well is usually enough to justify the methods of the gardener. If one prefers to grow certain things well, design the garden to suit them. If, on the other hand, a certain arrangement of the garden is preferred, plant those things only that suit the arrangement. I cannot agree with him that there is any necessity for a "general formula" at all.

In this particular instance the correspondence originated in a suggestion for a Rose garden. My design was prepared for a garden in which it was possible to grow every type and variety of Roses. Provision was made for climbing Roses of all descriptions—Tea, Hybrid Tea, Hybrid Perpetual, Polyantha, China and all other types



PLAN OF VILLA GARDEN BY "ANOTHER AMATEUR."

and species. The principal exception he takes to my plan is to the "too many curved and irregular lines." No garden is worth having that is not worth sitting in, and the irregular and curved lines were nearly all introduced for the purpose of providing space for this in the most suitable spots, without encroaching more than necessary on the areas required for grass, planting, &c. Moreover, seats that are placed in such little recesses always have, like the armchair in the chimney corner, a cosier feeling and an appearance of being *comme il faut*. The only other curved lines were entirely due to the fact that every path in every garden, large or small, like steps and stairways, should always give a feeling of unrestricted progress.

Mr. Morley Horder says it is "pleasanter to get a straight vista along a central walk from the bay window with a balanced arrangement of beds on either side." Surely the path belongs essentially to the doorway, and not to the window. The path is the least interesting feature in the whole garden; the window should look on to the most interesting. Flowers or grass or anything is more attractive than the path. After all, the paths exist for the garden, not the garden for its paths. In such a villa it is obviously impossible for the architect to place the doorway central, even if it were desirable. Nor can I appreciate the point that it is necessary to divide a rectangular area into equal rectangles of smaller size by placing the path central. I am quite sure he would never think of furnishing ever a small room by arranging the furniture neatly and rigidly round the walls with some central feature to create an apparent axial line. He would be the last to assert that the prettiest cottages are those with all the doors and windows placed with mathematical precision and regularity on each side of a central and obvious axis. Such regularity is only imposing when applied to large buildings. Nor would he think much of a miniature painting, however perfectly executed, one half of which looked like a reflection of the other. The fact is that even in small areas some appearance of casual and irregular treatment often exercises a potent charm, providing always that it is not artificially casual (which would be a paradox).

It is a curious fact that we all, including the architects like Mr. Morley Horder and the garden designers like myself, air our theories about the laws of proportion, balance, perspective, harmony of line and colour, but instinctively turn to the charming *little* irregularities with pleasure and relief—I mean the odd corners and occurrences occasioned by circumstances; and I know by experience that many a garden, large or small, is rendered delightful by the little things that were never really meant to be, but which grew because they had to.

I hope no one will ever convince the owners of villa gardens that there is such a thing as a "general formula." What pleases the eye and delights the senses is good enough gardening for all. If all gardens were alike there would soon be none, because they would cease to interest. There never was, never will be, two gardens alike if the true spirit of gardening is alive. There is a remark of Ruskin's that admirably sums up my theories in this respect: "All things that are worth doing are interesting. There is no law of right which consecrates dulness. The proof of a thing being right is, that it has power over the heart; that it excites us, wins us, or helps us." It applies equally to the villa garden or the grounds around a country mansion. Why, if Mr. Morley Horder and I lived side by side in a semi-detached I am sure that because he did not like my garden he would make one of his own that he did like, and "Formakin" would do the same (although I would rather not have him as a neighbour). I am sure we should all enjoy each other's efforts as much as our own, and should not trouble much about the "formlessness of the neighbourhood."—GEORGE DILLISTONE.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SUNFLOWERS FOR POULTRY FEEDING (*H. M. B.*).—There should be no difficulty in growing these. In a late district it is as well to sow early, taking up the plants with a little ball of earth attached, and transplant. The Russian Giant is certainly more suitable for growing heads for poultry seed than some other kinds, but really any of the large-headed sorts would do very well. If the tops were pinched out it would encourage lateral growth; the plants would then produce small heads, but we fear would be later still in ripening.

TREES AND SHRUBS.

CUTTING BACK GORSE ON A BANK (*H. N.*).—Your Gorse can be cut back with safety about the middle or end of April. There is no reason why you should not cut it down to within a few inches of the ground if you so wish.

RED AND GOLDEN WILLOWS FOR DISPOSAL (*M. V. D.*).—Red and yellow barked Willows are not the best kinds for basket-making, although some are used for that purpose. The rods are, however, in demand in normal times by nurserymen and market-gardeners, who use them for binding bundles of plants, vegetables, &c. It is probable that an idea as to the value of the rods and a likely market could be obtained by applying to Mr. W. P. Ellmore, The Willows, 3, Saxe-Coburg Street, Leicester. It would, however, be necessary to send a sample of the rods and give some idea of the quantity available for sale.

MISCELLANEOUS.

DISSOLVED BONES AND SULPHURIC ACID (*W. F. M. C.*).—The chief danger of the mixture you have made would lie in excess of acid, and the mixture should therefore be used only on ground which contains sufficient lime. There it may be used (we are assuming the mixture is dry and powdery) at the rate of 3oz. to the square yard. Bones, if broken finely, are themselves an excellent dressing for Vines. The quantity of carbolic acid in the water used for scrubbing floors where carbolic soap is used would not be likely to be sufficient to damage the trees.

CLEANING GLASS (*Juno*).—If not too bad, old glass may be cleaned by a strong solution of soda and water. If, however, it is very much corroded with dirt, the best material to employ is hydrochloric acid, popularly termed spirits of salts. It may be diluted with water, but the extent will depend upon the condition of the glass. The acid should not be allowed to touch the hands, a good plan being to use an old worn-down painter's brush or a firm pad of calico. It will be found that the sooty deposit which is most pronounced in the case of greenhouses near manufacturing cities or towns is more difficult to clean than that in a purer atmosphere. In that case the acid may be stronger.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

The fortnightly meeting held at the Drill Hall, Buckingham Gate, on March 13 was a great advance on preceding ones. Bulbous plants grown in fibre from Messrs. Bath, Wisbech, were in perfection; charming seedling bulbous Irises were shown by Mr. Herbert Chapman; while Orchids and Carnations, together with a fine exhibit of fruit from Chelmsford, added both interest and variety to a good meeting.

Floral Committee.

Present: H. B. May, Esq. (chairman), and Messrs. R. C. Notcutt, W. J. Bean, W. B. Cranfield, J. Green, G. Harrow, J. Heal, J. F. McLeod, A. G. Jackson, J. Jennings, C. Dixon, J. Dickson, W. Cuthbertson, C. E. Pearson, C. E. Shea, E. F. Hazelton, H. Cowley, W. P. Thomson, E. H. Jenkins and J. Hudson.

By far the most attractive and instructive exhibit in this section was a magnificent group of Daffodils, Tulips, Crocuses and other bulbous-rooted subjects grown in bowls of fibre and shown by Messrs. R. H. Bath, Limited, Wisbech. Rarely have these things been seen in such perfection, the whole being equal to the finest pot and soil grown examples. Notable specimens in the group included such handsome trumpet Daffodils as Emperor, Mme. de Graaff (white), Glory of Leiden, Victoria (the best of the bicolors) and W. P. Milner (a pretty and useful sort and one of the most dainty for this work). Sir Watkin (an incomparabilis) was also fine. Of Tulips, Prince of Austria, Sir Thomas Lipton, Keizerkroon (scarlet and gold), La Rêve (rose Darwin) and Duchesse de Parma were the best among many sorts.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, exhibited quite a variety of bulbous plants in pots—Daffodils, Tulips, Iris reticulata, Muscari Heavenly Blue, Snowdrops and the like. Alpines, too, in boxes were nicely shown, particularly Saxifraga Burseriana Gloria, S. Bursiculata and the white form of S. oppositifolia.

Messrs. J. Cheal and Sons, Crawley, showed boxes of Primroses, the crimson-flowered Miss Massey being very fine. A good strain of the "blue-flowered" race was also on view, with the forced Rhododendron Jacksoni and other plants.

Mr. Elisha J. Hicks, Hurst, Twyford, Berks, showed the single crimson Rose Princess Mary in pots, the brilliant colour a great attraction.

Primula malacoides King Albert as shown by Messrs. Carter and Co., Raynes Park, was among the finer exhibits in the show. The variety is by far the greatest advance in colour which this species has yet given; a model greenhouse plant in every way.

The Misses Hopkins, Shepperton-on-Thames, showed a few hardy flowers.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, contributed a nice lot of Carnations, notably Red Ensign, Eileen (fine salmon), Pink Sensation, Gorgeous (fine cerise) and Triumph (crimson). Cyclamen were very beautiful.

Some seven dozen pots of well-flowered Lachenalia Nelsonii were shown by Messrs. R. and G. Cuthbert, Southgate, the whole a considerable attraction.

From Mr. G. Reuthe, Keston, came an interesting lot of alpines, Hepaticas, Iris reticulata, Cyclamen ibericum purpureum, and many Saxifrages. Of these latter, S. Grisebachii, S. kestonensis, S. calyciflora and S. Burseriana were the most beautiful of those in flower. Adonis amurensis, Crocus aerius, C. aurea, C. Sieberi and C. Imperati longifolius were also charming.

Messrs. Allwood Brothers, Hayward's Heath, had some good Carnations, among which Nora West (new pink), Triumph (crimson), Bishton Wonder (fine Clove scent) and Salmon Enchantress were noted.

Messrs. Barr and Sons, Covent Garden, showed a variety of early hardy flowers in boxes, including Narcissus minimus, Crocus Tommasinianus purpureus, Iris reticulata major, I. r. Krelagei, Snowdrops, Saxifraga Burseriana, and Christmas Roses.

Ferns from Messrs. H. B. May and Sons, Limited, were of much interest, Davallia Mariesii, Pteris Childsii, Davallia Lorrainii (very pretty) and a variety of Nephrolepis being noted. Hardy Ferns were also freely shown. Columnea magnifica, with Arums and Cinerarias, formed a gay colony at one end of the group.

An excellent group of Azaleas, forced Lilac, Lily of the Valley, Wistarias, Prunus triloba and Daphne japonica, interspersed with Ferns, came from Messrs. William Cutbush and Son, Highgate, N. The best Lilacs were Jules Calot (white), Michael Buchner (double lilac) and Marie Lemoine (double white). Lily of the Valley was also good.

Mr. J. C. Jenner, Rayleigh, Essex, contributed excellent Carnations, Aviator (scarlet), Rosette (cerise), Mary Allwood, White Enchantress (very good), Salmon King and Triumph (crimson) being the best in a nice lot.

Messrs. Herbert Chapman, Limited, Rye, had a charming lot of bulbous Irises, the majority being hybrids, some of considerable merit. The variety, too, was charming; of named sorts, I. Cantab (blue), I. reticulata, I. Helusine (dark blue), I. Afterglow and I. sind-pers. Snowdrops and Tulipa Kaufmanniana ryeensis were also well shown.

Fruit and Vegetable Committee.

Present: The Rev. W. Wilks (chairman), and Messrs. F. Perkins, W. H. Divers, George P Berry, E. W. Harriss, J. C. Allgrove, A. R. Allan, H. Markham, J. E. Weston, A. Bullock, E. A. Bunyard, A. W. Metcalfe and Edwin Beckett.

Messrs. W. Seabrook and Sons, The Nurseries, Chelmsford, contributed some six dozen dishes of culinary and dessert Apples, all being in excellent condition. The new seedling Apple Monarch was well shown; it is full of promise. Reinette du Canada, Cox's Orange Pippin, King Edward VII., Tower of Glamis, Blenheim Orange, Claygate Pearmain, Golden Noble, Wellington and Bismarck were among good dishes. Silver-gilt Knightian medal.

Orchid Committee.

Messrs. Armstrong and Brown, Tunbridge Wells, showed some lovely Miltonias and Odontiodas, O. Ashtoniæ among the latter being one of the most brilliant. O. Cooksoniæ was also very fine. Dendrobium Armstrongiæ (white and maroon) and Odontoglossum Wilckeanum were also excellent.

Messrs. Charlesworth and Co., Hayward's Heath, had a nice assortment, Brasso-Cattleya Vilmoriniana (deep rosy mauve) and B.-C. Queen Alexandra being among the more important. Brasso-Cat-Lælia Joan (golden) was very fine.

Messrs. Sander and Sons, St. Albans, contributed Cattleya Snow Queen and Lycaste Skinneri Mrs. G. Hamilton-Smith, a richly coloured sort, among others.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gardener, Mr. J. Collier), had some lovely Dendrobiums, notably D. Wiganianum Gatton Park variety, D. chessingtonensis Gatton Park variety (yellow and maroon) and D. rubens elegans, among many. D. Golden Ray and D. chessingtonensis magnifica, yellow and orange respectively, were also fine.

TRADE NOTE

Folding Frames and Cloches.

Some very useful folding cloches and frames in varying shapes and sizes are being sent out and specially recommended by Messrs. Barr and Sons, Covent Garden. The

A FOLDING CLOCHE FOR RAISING SEEDLINGS OR PROTECTING PLANTS.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

FURTHER INTENSIVE NOTES

LAST week I described in brief the intensive system of poultry-keeping, and this week I propose again dealing with this new method of hen-culture.

Does Egg-Production Pay?—Not many years ago, had any poultry expert dared to say that egg-production exclusively paid, he would have been severely dealt with. It was then commonly acknowledged that the production of new-laid eggs for the table had to be considered in conjunction with other branches of poultry husbandry, and not separately. The intensive system has completely disproved this fallacy. In those days, if one wished to keep 600 fowls he had to allow six acres of ground for the houses and runs, and another acre or more to act as the rearing grounds. Thus, under the old system, the most an acre would carry was 100 head of stock, but by adopting intensive methods no fewer than 400 birds can be accommodated on each acre of land. The saving in ground-space alone is therefore very great, and cannot be overlooked by the progressive poultry-keeper.

A Saving of Labour.—Where the small-house-and-run system of housing is adopted, labour is naturally a heavy item. Each house usually accommodates, say, from six to nine fowls, and it means the continual opening and closing of gates. This routine is necessary several times a day, for early in the morning the birds have to be liberated, then the feeding round has to be undertaken, next the cleaning operations have to be attended to and all the drinking vessels filled. At tea-time the birds have to be fed, and the day's work is not over until all the houses have been visited and locked up. Thus it is one endless "trot" round the farm under the old system, and should the owner perchance leave his pipe in the food-house, he is compelled to cover those many alleys in search of his soothing briar. There are, of course, many original ways of reducing these labour disadvantages. I am, however, merely comparing the two systems to show that the intensive methods have many real advantages, which, in these times of shortage of labour, must be given their due weight.

Centralisation.—With the birds quartered under one roof everything is centralised. The endless opening of doors and gates is reduced to a minimum. There is, too, the saving of time in feeding and "watering," not to forget, also, the duties at closing-up time. The cleaning-out operations are greatly facilitated and the collection of eggs very much simplified. In short, it is surprising the number of birds the owner can look after with the aid of a lad's help. As I have said, the size of the house selected will depend upon the number of birds it is proposed to keep. One can commence with the six-hen size and continue till the thousands are reached. I like a depth of about 16 feet for an intensive house, and the inmates can be run in flocks each of 50 or 100 birds where the larger patterns are in use. Partitions can be quickly and cheaply erected, and may consist of wire-netting covered entirely with canvas. The latter is perhaps advisable in very long houses to make them snug, but in smaller structures the wire-netting partition need only be canvas-covered a few feet up at the bottom to prevent the neighbours fighting.

As Laying Houses.—It is as laying houses that I strongly recommend the intensive structures. The small-house-and-run plan can still be adopted for the few select breeding stock kept expressly for the purpose of "feeding" the large buildings with pullets. If every poultry-keeper started the winter egg-season with an intensive house accommodating fifty matured pullets, he or she would not be without full egg-baskets during the winter months. It would require but a few breeding pens to produce that number of laying pullets, and the labour and time expended on the small houses and enclosures would not be much. It is always a wise plan to allow the poultry stock kept to be half hens and half pullets, and to make this possible two intensive houses could be employed. Having commenced with one house of birds and gained experience in the handling of stock under the new methods, further houses can be installed. The exact arrangements must depend upon the would-be intensivist's circumstances, &c.

Accommodation Structures.—Intensive houses need never stand idle, for they come in most useful as accommodation structures. If they are not occupied by laying stock they can be utilised for growing birds. Here, again, time and labour necessary for the tending of the young stock can be reduced to a minimum. With birds, too, that are intended eventually for the intensive laying houses, it is very wise to allow them to "finish off" or reach maturity in such structures. They then grow accustomed to this method of housing and management, and consequently are acclimatised by the time eggs are expected from them. I am, of course, referring to pullets, which, as a rule, are shy little creatures. Adult birds very readily settle down to the intensive method of management.

During the Moult.—It is rather early to write of the autumnal moult, but I do so to show the advantage of the intensive house as an accommodation for birds that are moulting. As most of my readers are aware, fowls begin to moult about August, and while the normal period for the casting of the old feathers is six weeks, some birds will take three months or more. Now, the longer the hens take to moult, the later they will commence to lay again. In fact, if they are caught moulting when the cold weather sets in, they will "stop still," so to speak, and the moult will be prolonged. Should this happen, Christmas comes along and they have not commenced to lay again. Many readers are without eggs to-day because they allowed their hens to have a prolonged moult. "They were laying and we did so wish for the eggs," I hear someone say! That excuse will not do, because that system of hen-handling is completely against winter egg-output.

The "Clockwork" Moult.—When dealing with the moult my *automatic* hen comes into the scene once more. I decide upon a "clockwork" moult for all hens upon which I am to rely for eggs from October onwards. Each one has to stop laying the last week in July or first week in August and commence her moult. My methods, of course, must be left to a later issue when they will be topical. I plan to get the layers into their winter quarters by mid-September and in lay by mid-October. Then I am sure of eggs right through the winter. If the fancier wishes any bird to have a quick moult, he places it in a heated building and "forces" the casting of the old feathers and the growth of the new. He does not allow such a bird free range and in all weathers. I have received birds from a summer exhibition—held in a show-tent—which moulted upon arrival home. The heated temperature under the tent had set the old feathers dropping. Warm housing will likewise make for a normal moult, and that is why hens accommodated in cosy and dry intensive houses and allowed out on fine days only will moult normally and recommence laying to time.

The Breeding Question.—It is quite a controversial problem as to whether hens kept intensively should be bred from. In the States males are run with the females in the large laying houses. Mr. Corning is perhaps the largest intensivist in the United States of America, and his houses on the average hold 1,500 layers. He runs male birds with his layers. On the Rancocas Poultry Farm, New Jersey, too, where 20,000 layers are kept intensively, a male is used for every twenty-five hens, and the hatching fertility reaches nearly 95 per cent. In the small houses holding twenty-five layers, two males may be run with them; but for the larger houses I like the plan of keeping the breeding stock in small houses and runs and in small mated pens, and "feeding" the intensive laying houses as already recommended.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, The Garden *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* The Garden, *20, Tavistock Street, Strand, W.C.*

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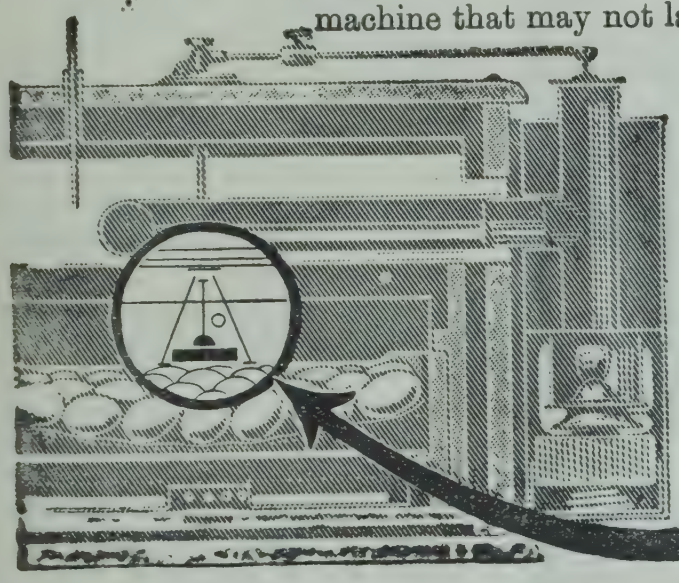

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When the Chicks Arrive

THE percentage of chicks hatched out, whether by broody hen or by incubator, is governed more or less by good or bad management during the whole period of incubation. This article tells you what, and what not, to do.

EGGS, whether under hen or in machine, should be tested for fertility on the seventh and fourteenth days. An egg-testing lamp will be needed, and the operator should first hold a new-laid egg near the light to find out exactly what its contents look like. A new-laid egg when held before the testing lamp appears perfectly transparent, and at the first test on the seventh (or tenth) day any eggs that are transparent will be removed as "clears" or infertiles. Inside the fertile egg will be seen a spider-like form—the embryo—with small veins jutting out in all directions. Such eggs should be replaced! The inexperienced tester will be doubtful of some of the eggs—usually thick-shelled ones—and he will be well advised to mark such eggs with the letter "D" to represent "doubtfuls." These can receive closer attention at the second test on the fourteenth day.

The Second Test.—The novice will be less liable to make mistakes on the fourteenth day. The air-space test can then be accurately relied upon. If the line separating the air-space and the contents of the egg is distinct and sharp, the egg may be considered a good one. If the line is misty, a doubtful egg may be suspected. An addled egg can on the fourteenth day be easily picked out. The contents represent a dark mass, and rattle when the egg is gently shaken. Practice in testing makes perfect and the novice can rely more upon the second test, with the stages of incubation more advanced than the first. Do not take too long over the testing of the eggs, or the latter will come to harm through getting cold. Especially do my remarks apply to artificial hatching. Perhaps it is a wise precaution until experience is gained to cover the eggs with flannel during the operation. Test them by night, and should the eggs at any time during incubation get stone cold, dip them quickly into warm water (comfortable to the elbow) and replace them under the hen or in the machine.

Damping the Eggs.—Take the broody hen off the nest on the nineteenth and twentieth evenings and lightly sprinkle the eggs with warm water, paying attention also to the nesting material and the ground around the nest. When the hen is placed back, the heat from her body will soften the skin or membrane inside the egg—made parchment-like by continual warmth—and enable the chick the easier to penetrate it with its beak. This it has to do before the little one can pierce the outer shell of its prison. Starting from one side of the shell, the chick breaks the latter in a complete circle until the larger end of the egg-shell falls away and the chick struggles out. It is always advisable, therefore, to write the breed and pen number of the parent stock on the larger end of the shell, since it is very rare for a chick to emerge from the bottom of the egg. Should the latter happen, violent handling of the egg may be suspected.

The Twenty-First Day.—On the morning of the twentieth day see that the broody hen has a full meal and a nice dust-bath, since it is not advisable to disturb unduly the mother on the twenty-first day—hatching-time. If hatching has not commenced on the morning of the twenty-first day, it will, of course, be wise to take off the broody hen and allow her a good feed. At hatching-time the *good* mother settles down to serious business, sitting lower on the nest and hugging the eggs more tightly. She calls the more advanced members of her prospective brood and encourages them to break through the prison wall and retire to the rear amid her warm fluffy feathers. This they readily do! The *motherly* dame will arrange all the unhatched eggs in the front, and will throw out of the nest all broken egg-shells so that there will be room at the rear for the brood.

Hatching-Time.—Many hens can be trusted to finish off the hatching duties unaided, but they vary in temperament, and young pullets are, as a rule, very silly. At hatching-time close sitting is necessary for the unhatched eggs, but if chicks are left under the hen they will refuse to carry the full weight and "hug" of the broody. The latter directly they "cry" rises, and the eggs are liable to become chilled. As the chicks get dry, it is wise, I contend, to take them indoors, removing the broken shells from the nest and leaving the remaining eggs to the care of the sitting hen. The chicks can be accommodated near the fire in a bowler or top hat, with a top and bottom layer of flannel provided. At night all the chicks out can be returned to the mother, and by the next morning any eggs unpipped overnight should "make good." Where an incubator is used, in some makes the chicks have to be removed as they hatch out and placed in the drying section, while in others they come towards the glass front—attracted by the light, and drop into the drying section.

The Twenty-Second Day.—If the hen or incubator has been well managed, hatching should not be late. The cockerels are the first to see the light of day, the pullets following several hours later. If the eggs were stale when set, late hatching may be expected; but if a goodly number of chicks are out by the morning of the twenty-second day, any unpipped eggs that remain can be tested prior to being broken. Place the eggs in a basin of warm water, and any that move will contain live chicks. Place these back again, and if no further progress is noticeable after several hours under the hen or in the machine, gently break the shells. Hold each egg between the thumb and first finger of the left hand, and give the top of the large end a sharp tap with a blunt knife, hitting the thumb (gently) at the same time so that the shell is not broken deeply inwards. Carefully peel off sufficient shell and inner skin, and, taking hold of the chick's beak, quickly withdraw the chick. The operation is best done indoors near the fire, and after its release place the chick in flannel in a medium-heated oven. When dry andstrong it can be placed with itsmother.

Mother and Brood.—On the twenty second day both hen and brood should be transferred to the coop and run that have previously been prepared for their reception.

(*Continued on page xi.*)

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From pure stock of guaranteed 200 to 289 Eggs each in the year
6d. each.

From selected pens of birds of these wonderful laying strains
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The stock from these will lay just as well as from the cheaper pens, but be worth more from the sales point of view as the birds will be more perfect in colour.

And are booking orders for supplying in rotation for :

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FIRST CROSS.—Faverolle-Sussex, 6d. each.—This is the finest cross for the production of heavy table birds in a short time, while the pullets make excellent layers.

All eggs are despatched on the day they are laid, and **not** less than twelve eggs supplied, and no reduction for large numbers.

Profitable Poultry Keeping is only possible when Eggs are forthcoming, and many who have been keeping fowls with the definite purpose of producing eggs have had reason to be dissatisfied with the returns during the past few months, and now that all food prices are up, it is a serious matter when the fowls give no returns. Mongrels and poorly bred stock can be made profitable, and the returns from pedigree stock greatly increased, provided that the food which will develop their eggs is given, and the mistake made by the majority of food manufacturers is to provide starchy diet which fattens the fowls and prevents egg production. It is as the result of their knowledge possessed as to food values which

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have prepared their

IDEAL MEAL

and they use nothing but this and oats to feed their many thousands of birds daily This is the meal which is different to all others on the market, as it is non-starchy and non-fattening, and produces eggs in abundance and promotes rosy healthiness in the fowls fed on it. It is now made in two forms :—

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For a few fowls a **6/-** bag, or for twenty or more one at **11/-**, will prove the value of this food.

Everyone who has fowls which are not laying should—in their own interests—try a bag of **Ideal Meal** without delay, then they will be able to see that they have not before bought THE RIGHT FOOD, although they have paid a good price for it.

Special Notice.—Those who wish to purchase their eggs for hatching from the

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of the Orpingtons and so secure the original and tested layers which are quoted all over the world as Cook's strains ; also the **Ideal Meal, must** address their letters to their ONE ADDRESS IN ENGLAND :—

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For three penny stamps they will send a set of papers dealing with the whole question of **(1) Incubation ; (2) Rearing ; (3) Feeding ;** and **(4) General Management.** Provided that readers will be good enough to mention "The Garden."

WHEN THE CHICKS ARRIVE

(*Continued from page x.*)

The mother-hen can be carried under the arm, and the chicks accommodated in the operator's apron. Place the hen in the coop, holding her firmly until the chicks have been placed near her. This precaution is necessary to prevent the mother from stepping clumsily on her brood through excitement brought on by the chirps of the chicks. Handle the latter very gently, taking care not to squeeze them unduly.

The Coop.—The coop is in the nature of a box-receptacle, boarded in on all sides with the exception of the front. The latter consists of narrow spars nailed at intervals from top to bottom. The chicks run in and out through the narrow openings, while the hen is confined. To enable the hen to be released, the centre batten or spar is made removable.

Addled Eggs.

ADDLED eggs should not be allowed to remain under the broody hen or in the incubator throughout the period of incubation. They give off poisonous gases which affect seriously the eggs close to them, owing to egg-shells being porous. Addled eggs, too, do not retain heat, and therefore chill those next to them.

* * *

Administering Medicine.

THE administering of medicine to fowls is quite a simple matter if the following plan is adopted : Obtain a small box about the size of the bird, and place the latter in the receptacle in a sitting position. Place the left arm across the back of the fowl, and with the thumb and first finger hold the upper part of the beak, opening the latter with the second finger. The right hand will be at liberty to drop a pill down the bird's throat or administer any medicine by the aid of a spoon. A fountain-pen filler makes a useful holder for medicine, the giving of which is facilitated by the adoption of this utensil. It is not always possible to obtain the services of a second person to hold the bird while medicine is being given ; hence the value of the method here recommended.

* * *

Poultry and Fruit.

NO other livestock go so well hand in hand with fruit culture as poultry. The latter can be accommodated in the orchard with perfect safety, and both fruit trees and owner benefit. Fowls are great scavengers and will keep an orchard rid of all troublesome insect and grub pests. Nor must we forget that the owner who is so well placed that he has an orchard or fruit plantation to offer his laying stock is able to rely upon double returns from the same land, viz., fruit and eggs. It is perhaps advisable to collect all fallen fruit daily, as too many Apples, for instance, will prove harmful to the fowls. Where one bird, however, is a glutton for fallen fruit, ninety-nine others will not give trouble in this direction. The main idea is to see that fowls kept among fruit trees are well fed and regularly, so that they do not create an appetite for the fruit.

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HOW TO FEED POULTRY

By P. L. STANLEY

(Of the Model Farms, Twyford).

Many and various are the questions I am continually asked regarding Poultry-keeping. One gentleman sends me a seven-page epistle, while another writes a postcard "Why am I not getting more eggs?" the latter not the easiest question in the world to answer as the writer gives no further particulars. Generally the failures in poultry-keeping are due either to wrong feeding, unsuitable birds or bad accommodation. It is obvious that if you want table birds you must not feed them in the same way as if you wish to produce eggs. I said last week that the very best food for egg production is Molassine Laying Meal (sold by Corn Merchants at 26s. 6d. per cwt., or 1s. 11d. per 7lb bag), but many poultry-keepers require a food which, while good for egg production, is also suitable for bringing on young birds from twelve weeks of age to maturity, for feeding to stock birds, etc. Biscuit Meal is now so high in price that it is impossible for the poultry-keeper to use it freely. I recommend in place of biscuit meal—Lifo Poultry Meal, from which I am getting some exceedingly good results at the Model Farms ; it is much cheaper than biscuit meal (Lifo is sold by Corn Merchants at 24s. 6d. per cwt., or 1s. 9½d. per 7lb. bag), and I have no hesitation in recommending it as a thoroughly sound and economical food. Lifo Poultry Meal may be fed either wet or dry mash. If used wet, it should be scalded in the usual way and allowed to stand from 15 to 20 minutes before being dried off with middlings (or sharps, as they are called in some parts of the country). If used as a dry mash, one part of Bran should be mixed with two parts of Lifo Poultry Meal. Ten per cent. of Meat Meal may also be added during very cold weather. I recommend the wet mash of Lifo Poultry Meal to be fed in the mornings and corn at 11 a.m. Oats, Wheat, and Cracked Maize should be given on alternate days, and should be dug into the scratching material, so that the birds are kept busy. Corn should be again fed in the afternoon. No birds should be given more than four ozs. of food in all per day, except, of course, when they are being fattened for the table. Green food is a necessity, and may be given ad lib. Cabbage is the best green food, and swedes are also good. Grit and shell should always be kept before the birds in boxes or hoppers, and fresh water should be given daily.

Now just a few words on the subject of suitable birds. It is obvious that if a man keeps poultry for egg production, he must have breeds that are recognised as good layers, whereas if he wants table poultry, he must not buy a laying strain and expect them to make the best birds for fattening. It is important in addition to the selection of the right breed of bird that they should be obtained from a reliable firm. For egg production the very best breeds are White Wyandottes, Leghorns, Rhode Island Reds for the intensive house, and for free range Orpingtons, Langshans, or Faverolles. For table birds, the following first crosses are hard to beat : Game—Dorking, Game—Buff Orpington, Faverolles—Orpington and Houdan—Orpington. They should be fed with Lifo Poultry Meal, and three weeks before killing put them on to Molassine Fattening Meal (sold by Corn Dealers).

Two very useful little booklets called "Foods and Feeding," and "How to get more Eggs," are issued by the Molassine Co., Ltd., Greenwich, who are the Manufacturers of Molassine Laying Meal and Lifo Poultry Meal, and will be sent to any poultry keeper for 2d. in stamps to cover postage, etc. They are well worth the careful perusal of every poultry keeper.

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A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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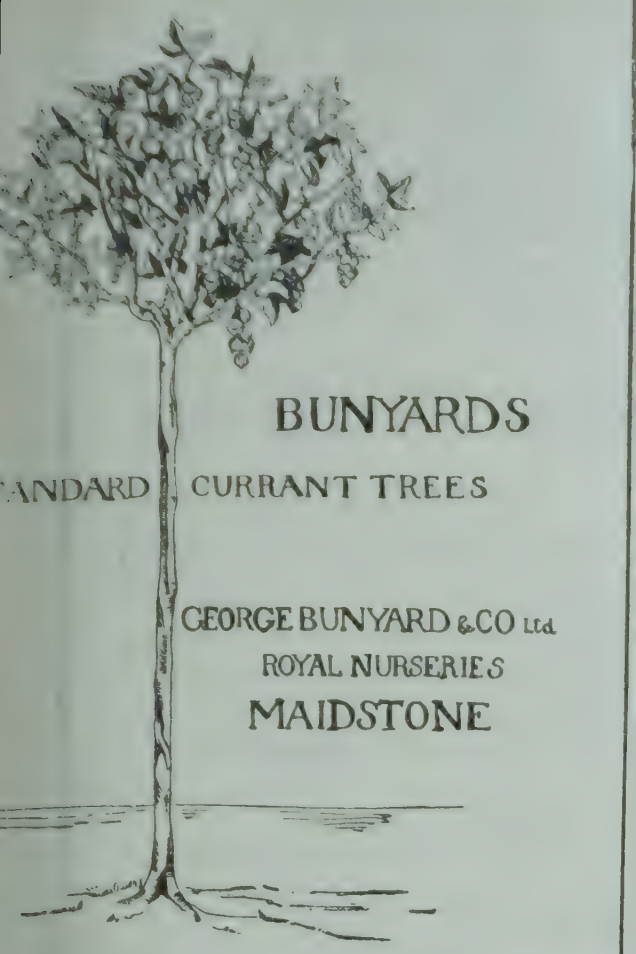

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SELECTION "R."

6 choice and fragrant sorts, suitable for hedges, &c.

Colours exquisite. **3/9** Carriage paid.

Anne of Geierstein, deep cri.	8d.
Edith Bellenden, rose pink	8d.
Lucy Bertram, rich crimson	8d.
Lady Penzance, soft copper	8d.
Meg Merriles, bright crim.	8d.
Rose Bradwardine,clear rose	8d.

Exhibition Roses

SELECTION "B."

24 specially-selected varieties, superb form, grand colour.

Assured prize winners. **12/6** Carriage paid.

Avoca (ht), crimson scarlet	8d.
Bessie Brown (ht),creamyw.	8d.
British Queen (ht), white -	9d.
Chas. Lefebvre (hp),crimson	6d.
Coronation (hp), flesh pink	1/-
Dean Hole (ht), silvery rose	8d.
Earl of Gosford (ht),dk.crim.	8d.
Ethel Malcolm (ht),ivory w.	8d.
Gl.de C.Guinoisseau (hp),ver.	6d.
GeorgeDickson (ht),vel.crim.	8d.
Hugh Dickson (hp), crimson	6d.
J. B. Clarke (ht), crimson -	8d.
Jonkheer J.L. Mock (ht),car.	8d.
Leslie Holland (ht),scar.crim	8d.
Mabel Drew (ht),canary yel.	8d.
LyonsRose (ht),shrimp pink	8d.
Mrs. C. West (ht), shell pink	8d.
Mildred Grant (ht),tinted w.	8d.
Mrs.AmyHammond (ht),ap.	8d.
Mrs.AndrewCarnegie (ht),w.	1/-
Mrs.JohnLaing (hp),rosy pk.	6d.
Mrs. J. H. Welch (ht), pink	8d.
Mrs. Roosevelt (ht),pale flesh	8d.
UlrichBrunner (hp),cher.red	6d.

Town Roses

SELECTION "E."

12 sorts proved suitable for growing in smoke.

Immensely successful. **6/6** Carriage paid.

CarolineTestout (ht),sal.pink	6d.
Dr.O'Donel Browne (ht),car.	8d.
F. K. Druschki (hp), white	8d.
George Dickson (ht),crimson	8d.
GustaveGrunerwald (ht),car.	8d.
J. B. Clark (ht), deep scarlet	8d.
La Tosca (ht), silvery pink	8d.
Mme. Ed. Herriot (per), red	9d.
Mme.Ravary (ht),orange yel.	6d.
Mrs.JohnLaing (hp),rose pk.	6d.
Mme. Isaac Pereire (b), car.	6d.
Ulrich Brunner (hp),cher.red	6d.

Tall Bedding Roses

SELECTION "J."

12 vigorous sorts, may be pegged down or grown natural.

Charming colouring. **6/6** Carriage paid.

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Gruss anTeplitz (ht),crimson	6d.
Gus. Grunerwald (ht),carm.	8d.
Hugh Dickson (hp),crimson	6d.
Lady Hillingdon (t),apri-yel.	9d.
La Tosca (ht), silvery pink	8d.
Mme.A.Chatenay,salm.pink	6d.
Mme. M. Soupert (ht),yellow	8d.
Mrs. R. G. S.Crawford, pink	6d.
Pharisaer (ht), rosy white -	8d.
Pce. C.de Rohan,dark crims.	6d.
Souv. de M. Zayas (ht), car.	6d.

Baby Ramblers

SELECTION "O."

12 roses of bushy habit, recommended for beds.

About 1ft. in height. **6/6** Carriage paid.

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Canarienvogel, yel. & orange	9d.
Ellen Poulsen, deep rose -	8d.
Erna Teschendorf, crimson	8d.
E. Lamesch, orange pink -	8d.
Jessie, rose crimson - -	6d.
Katherine Zeimet, pure wh.	8d.
King Edward VII., rosy car.	8d.
Leonie Lamesch,coppery red	8d.
Mrs. Taft, brilliant crimson	8d.
Mrs.W. H. Cutbush,cher.pk.	6d.
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Climbers, Ramblers

SELECTION "S."

6 roses suitable for trellis, pillars, arches, pergolas, &c.

All very vigorous. **4/-** Carriage paid.

Alberic Barbier (W.), yellow	9d.
American Pillar (cl., P.),pink	9d.
Blush Rambler (cl.,P.),blush	9d.
Dorothy Perkins (W.), pink	9d.
Excelsa (W.), bril. scarlet	9d.
Hiawatha (cl.,P.), crim.wh.	9d.

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Opal Alkanet, sky blue.
Oliver's Sea Holly, steely blue.
Riverton Sneezewort, crimson.
Pearl Achillea, pure white.
Beautiful Stonecrop, rosy pur.
Cambridge Scarlet Bergamot.
Tuck's Red Hot Poker, scarlet, yellow.

Michaelmas Daisies

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Every one a beauty. **3/6** Carriage paid.

Saturn, rich violet.
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Delight, pure white.
Hilda Morris, pale lavender.
Glory of Colwall, double lav.
Lady Lloyd, rose pink.
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G. M. Lewis, deep blue.
Acris, lavender blue.
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Novelty, cloudy lavender.

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Sunset Rock-rose, yellow.
Bulgarian Rockfoil, white.
Californian Stonecrop, crim. yel.
Woolly Thyme, lavender.
Pulla Bellflower, deep violet.
Silvery Aubrietia, lilac.
Alpine Cotoneaster, evergreen.
Dub. Evening Primrose, yellow.
Pott's Stonecrop, pink.
Norbonne Flax, blue.
Upright Thyme, lilac.
Californian Rockfoil, white.
Isabel's Bellflower, blue.
Potter's Aubrietia, violet.
Ewer's Stonecrop, yellow.
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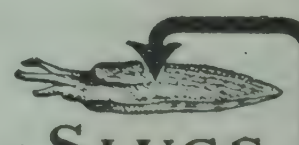

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THE GARDEN.

No. 2366.—Vol. LXXXI. March 24, 1917.

NOTES OF THE WEEK

OWING to the enormous increase in the price of paper and the greatly enhanced cost of production, we are reluctantly compelled to raise the price of The Garden to twopence, commencing with the issue dated April 7. In making this announcement we feel sure that our readers, among whom are many who remember The Garden in the days when it was threepence and even fourpence, will be ready to make allowances for the difficulties with which we are faced. In the present crisis, when the food supply of the nation is seriously threatened, The Garden has a most useful and important mission to fulfil. At no time in the history of our nation has the economic value of gardening been so forcibly brought before the people. The Garden is particularly fortunate in numbering among its contributors the leading horticulturists of the day, whose services are at the disposal of readers. Among our new readers are many zealous workers whose good intentions are far in excess of their practical knowledge. We are most anxious to help them, and invite them to place their gardening difficulties before us.

The poultry section of The Garden, conducted by Mr. W. Powell-Owen, is proving a far greater success than we ever anticipated. This feature was started a few weeks ago in response to numerous requests from readers, and it is a source of gratification to find that our poultry pages are gaining us new readers every week. The one object that is uppermost in our thoughts at the present time is the urgency of the food question, and it is our earnest desire to assist readers in producing the maximum amount of food from their gardens.

Substitutes for Frames.—Every known device is being employed in the gardens at Aldenham House with a view to producing as many Potatoes at the earliest date possible. Pots, boxes and frames are being utilised, and in addition to these a large frame substitute, or wind screen, has just been erected. The illustration gives some idea of this structure; and as many others may find this a useful expedient, a description will possibly assist them.

A Useful Wind Screen.—An oblong space 70 feet long by 16 feet broad was first enclosed by rough stakes well set in the ground at 2 feet apart, and of a height of 30 inches on the back and 18 inches in front. Within this another similar oblong of stakes was made at a distance of 18 inches from the outside staking, and the intervening space between them was tightly filled with small leafy trimmings from trees and shrubs. The outside oblong was faced with wire-netting fixed to the stakes and sunk a little into the ground, and wires were run between the stakes on and across the top. This has made a valuable and spacious wind screen, which, during severe weather, protects the young growths and can be easily covered. The shelter faces southwards. The origin of this device was a simple wind screen of a height of from 5 feet to 6 feet which Mr. Beckett had constructed on the north side of a young nursery ten years ago, and this, except for an occasional renewal of a stake, is practically as good to-day as when first built, and has proved very effective indeed. Of course, other media might be employed in place of tree branches, such as straw, Rushes, Bracken, or, indeed, any kind of spare material suitable which is easy to obtain. Such a structure will prove equally valuable for many other kinds of vegetables, and can be fully employed throughout the whole year.

A WIND SCREEN FOR EARLY POTATOES.

New Secretary to the Board of Agriculture.—Sir Sydney Olivier will shortly vacate the office of Permanent Secretary of the Board of Agriculture and Fisheries, and will be succeeded by Mr. A. D. Hall, F.R.S., member of the Development Commission and technical and expert adviser to the Board. Mr. Hall was formerly Director of the Rothamsted Experimental Station, and first Principal of the South-Eastern Agricultural College, Wye. His appointment will give general satisfaction.

The Waratah.—Telopea speciosissima, the national flower of Australia, is now in bloom in the Cape House (No. 7 Greenhouse) at Kew. Though said to have been first introduced to this country as long ago as 1789, it is seldom seen in cultivation, and rarely produces flowers. In 1882 the Waratah flowered at Pendell Court, and when exhibited before the Royal Horticultural Society on April 11 of that year it was awarded a botanical certificate. The Telopeas belong to the Natural Order Proteaceæ, and the subject of this note is regarded as the most beautiful plant in the Australian flora. It requires greenhouse culture, and has very showy red flowers. Added interest is given to the flowering of the Waratah at the present time, when so many Australian soldiers are in London, for Kew is looked upon by many of them as one of the places to visit when "doing" the sights of the Mother Country.

**** Owing to the shortage of paper, readers who have not already do e so are asked to order* The Garden *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Variation in Apple Cox's Orange Pippin.—I often think there must be two varieties of Cox's Orange Pippin in cultivation. The one makes a rather weak-growing, open bush; the other is a very strong, upright grower, much addicted to pushing adventitious shoots, and gives considerable trouble in pruning. The fruit of the latter is not so highly coloured as that of the former, but this is possibly the effect of its denser growth. I have both sorts of trees growing together on the same stock (Paradise) and treated alike. I can account for the difference in no other way than by supposing that Cox's Orange Pippin has perhaps descended from two pips of the same Apple. Can any of your readers throw any light on this subject? —H. A. WHIFFEN.

Sugar Beet Experiments.—Much has of late been written about the value of Sugar Beet for preserves. My slight experience of the subject prompts me to warn persons to act cautiously before risking good fruit to mix with Sugar Beet as jam. After boiling some roots here for seven hours they showed no sign of pulping, although by that time they were soft enough to eat. In that state the Beet has a distinctly "mawkish" taste, not at all palatable. I certainly shall not risk spoiling good fruit by adding Sugar Beet to it, as I see little difference in it to a good type of Tankard Mangel-wurzel when cooked, as the boiling extracts all the sugar. The water in which the Sugar Beet was boiled became quite sweet; whether that would be of value for bottling fruit I cannot say. Some has been put into an airtight vessel to test its keeping properties. I think Sugar Beet has a future when better known, as I regard it as being excellent food for all kinds of cattle, possessing as it does much saccharine. For fattening cattle I know it is valuable mixed with other foods. Pigs and horses are especially fond of the roots in a raw state. Another point in its favour is its immunity from frost while in the ground. I have still two acres not lifted. The roots grow entirely under the soil, and thus receive protection. They are also furnished freely with spreading leaves, which do not suffer in the same way as those of the Mangel —a point in favour in keeping. Sugar Beet requires the same cultivation as the Mangel. —E. MOLYNEUX, *Swanmore.*

Potato Difficulties.—The difficulties of arbitrary legislation in the case of farming and gardening matters are almost insuperable, as, whatever humanity may do, Nature is not bound by our laws, and the best-laid schemes may be upset by abnormal weather and similar causes. The recent Potato regulations are a very patent instance of this, and one rule is still in force which will do great mischief if not relaxed. I refer to the regulation that all seed Potatoes unsold by April 1 will have to be sold as for eating, or at the price fixed for eating. Owing to the abnormal season and scarcity of labour, a large quantity of land intended for Potatoes is still untilled, and probably a large proportion will not be ready for planting until May is well advanced. Are all the small growers who have not much storage room to be deprived of the chance of obtaining seed unless they are ready to put it in by April 1? The seedsmen are approaching the authorities through their association to obtain a relaxation of this regulation, and as the matter affects almost all gardeners and the food supply for next season, it is hoped that all who have any influence will utilise it in the right direction.—CHARLES E. PEARSON, Secretary to the Horticultural Trades Association.

Brussels Sprout Sutton's Dwarf Gem.—I have known and grown this variety for many years, and for quality it excels all others that I have tasted. That it is very hardy is proved by this winter, as my plants have survived and are still (March 12) yielding nice small, hard sprouts of delicate flavour. Its dwarf habit is of great advantage in snow and wind, as the plants do not topple over and get broken like taller varieties. A friend who used to garden on the cliff edge at Walmer once wrote and told me that his garden

BRUSSELS SPROUT DWARF GEM.

was so windy that he had to stake his Brussels Sprouts! But I hardly think this would have been necessary if he had grown Dwarf Gem.—ARTHUR R. GOODWIN, *Kidderminster.*

Onion Sets.—All interested in food production—and who are not?—should read the article on "Cropping a 10-Rod Allotment." On page 90 "H. C." speaks of the "advantages of the Onion set." I may be allowed to say that the opinions of those who have employed this easy and simple method of obtaining good Onions are not unanimous in its favour. While a considerable number of growers in Scotland have been successful, many are not prepared to assent to what has been claimed for the Onion set as compared with the usual method of raising the Onions from seeds. I find that the Onions produced are not so large, and in some seasons not so sound as those raised from seeds. A good deal may depend on the soil and weather conditions. I consider that those who wish to try the sets should not "put all their eggs into one basket," but grow a portion of the stock in the ordinary way. Onions will now be more than ever needed, as nothing can surpass this vegetable for giving a relish to other articles of diet.—A SCOTTISH AMATEUR.

The Spraying of Fruit Trees.—The discussion on this subject originated by the Rev. G. H. Engleheart would gain in point and direction if he would give us a few more details. To those who care for evidence it would be interesting to have some figures as to the number of trees he has sprayed, the number left unsprayed, and the resulting harvest of fruit on each, not forgetting the cost of spraying and its after-effect in other ways.—E. A. BUNYARD.

—— All the evidence available to me goes to show that "no spraying fluid will kill moths' eggs which is not strong enough to injure the tree." Mr. Gibson, on page 80, stigmatises this verdict as "a flagrant untruth." Mr. Engleheart quoted it as the considered judgment of eminent entomologists and men of great experience in the treatment of orchard trees. "A flagrant untruth" is "a wilful misrepresentation of well-known facts," and one can only think that Mr. Gibson has used ill-chosen words to express his criticism, for there are no *well-known* facts pointing to the verdict being an unjustifiable one. That there is evidence of the power of a winter wash to kill moths' eggs is possible, but it can be known to very few indeed. We have all been looking for a wash that will kill these wonderfully protected eggs without damage to the tree. Will Mr. Gibson tell us what it is, and give us a full account of the experimental evidence in its favour, or at least tell us where that experimental evidence is to be found? If he will enlighten what I can assure him is very general ignorance among those who have studied insects and fruit trees, he will earn everlasting gratitude. What a boon it would be to be able to avoid the trouble and expense of grease-banding and spraying against caterpillars in spring! Do not let it be understood that I deprecate the use of a cleansing spray in winter. Far from it. Cleanliness, *pace* Mr. Engleheart, is more than an English fetish. It reduces the lurking places of many an enemy of the fruit-grower, and occasional winter spraying with a wash of reasonable strength is an aid to cleanliness. But it is well for us to know exactly what we can accomplish by our efforts in any particular direction in horticulture. Only so is progress possible, and ignorance is certainly not bliss where our aim is to produce good food, free from blemish, and plenty of it. Knowledge may bring wisdom which is not foolishness, and I hope Mr. Gibson will see his way to help us towards it.—F. J. CHITTENDEN.

Double Epacrises.—I am much obliged to Mr. Godseff for the opportunity of seeing the pages of William Bull's catalogue for 1883, wherein he describes two double-flowered Epacrises under the specific name of onosmæflora. In my note (THE GARDEN, Vol. LXXXI., page 72) I did not cite the synonymy of the varieties in question, because it is given in several of the dictionaries of gardening. My principal point was the assumed earliest record of a double Epacris. Mueller and Bentham ("Flora Australiensis," Vol. IV., page 235) both referred the

original specimen to E. impressa. Bull's importations belong to E. purpurascens, of which E. onosmæflora is a synonym. The double variety of the former was first found at Stawell, Victoria, and later at Port Phillip; the double E. purpurascens near Paramatta, New South Wales.—W. Botting Hemsley, *Kew Lodge, Broadstairs.*

"Tommy" Loves a Geranium: A Suggestion. No doubt many, like myself, will this year be clearing their greenhouses and frames of flowering plants in order to make room for Tomatoes, early Marrows and so forth. I should like to put in a plea for the "Tommies." Last year, having a choice collection of Geraniums in variety, I supplied one of our local Red Cross hospitals with some thirty plants in full flower, which made a brave show arranged on the lockers down the centre of the large ward, erstwhile the ballroom of our pretty Assembly Rooms. They were a great joy to the sick men, who vied with one another in their care of their own special plant. (Incidentally, too, plants give much less trouble than cut flowers to the already overworked nurses.) After a six weeks' sojourn the plants came back to me to recuperate. Lately they have been cut back and top-dressed, and by the time my Tomatoes require the space, nice bushy Geraniums will, I hope, be ready for another visit to the hospital. Who will follow suit? Do not waste the plants. Failing a hospital, a window plant might be a great comfort to a lonely soldier's wife, "the girl he left behind."—W. D., *Altrincham.*

Galanthus plicatus, &c.—For many years I have been caring for and increasing this very desirable spring bulb. With me it is the easiest of its family to flourish and increase, and I may mention that all my large stock was derived from three bulbs given to me. An officer serving in the Crimean War sent or brought home to his family some few bulbs which he had picked up in or near the trenches, and his family, who have now passed away, had a few to spare; but I feel certain mine are the only descendants of the few travelled bulbs. Self-sown seedlings spring up all around their parents, which fact, when I noted was the case, I was most particular in denying myself the pleasure of them as cut flowers, and feel well rewarded. To-day I am tempted to recount a "find" among the large progeny, a "find" that well surprised and pleased me—a double, very double one, quite as double as G. nivalis fl.-pl. As I am unaware of such a reduplication having ever before occurred, I think it may interest lovers of these pure harbingers of spring. The long-laid blanket of snow which occurred this year has naturally retarded their growth, but the result is that the bloom of all the varieties is much stronger and finer from this perfect repose. A few days after the New Year came, G. Imperati (?) opened its blooms, and now (March 9) its large, broad leaves have attained their full growth.—J. Hill Poe, D.L. (Captain), *Riverston, Nenagh, Ireland.*

Ceterach.—In reading "Somerset's" article on "A Village of Wall Gardens," I was reminded of the extraordinary recuperative power of the common Ceterach Fern, which was noticed after a drought last summer and, again, immediately after the long severe frost of this winter. In both cases the apparently withered up fronds were curled up, so that nothing but a brown mass of scaly fructification was visible; but both in summer and winter, a day or two after the weather became amenable, the fronds revived and became green, just as true mosses do. Here in the parish of Blagdon, on Mendip, the Ceterach is most abundant on walls of dolomitic conglomeration; but elsewhere in the county of Somerset it grows equally well on the lias and the carboniferous limestone; while about Bristol it is remarkably plentiful, and noted from the earliest times as a prominent feature of many limestone walls. On the Continent I have noticed Ceterach officinarum, or Rustyback as it is called in Somerset, in a greater variety of habitats, and in the South of France it seems particularly fond of adorning old bridges and wells. About Blagdon, both on many walls and rocks, the rare Sedum album is remarkably abundant; but it is supposed to be only a denizen in the district of North Somerset.—H. S. Thompson.

Good Bee Plants.—There have been several notes of late about the best plants for bees, but the one that I believe is the best of all has not been mentioned. This is the Melilot (Melilotus officinalis); the name itself, Honey Lotus, shows that its use for bees has always been recognised. It is a rather straggling plant, 2 feet to 3 feet nigh, occurring occasionally in hedges and on waste places. The pale yellow flowers are arranged loosely, Vetch fashion. It is hardly important enough for a garden plant from its generally thin appearance, but it is well worth sowing a patch where there is a vacant place and bees are kept. Others of the same large tribe are also of value, and it is well known that a neighbouring Clover field is a boon to a beekeeper.—G. J.

—— Trifolium pannonicum is another good bee plant. I well remember seeing a large clump of it near the waterside in Mr. Bowles' garden at Myddelton House. The plant attains a height of 3 feet or 4 feet, and is like a giant Clover, with sulphur yellow flowers of a very pleasing shade. The fragrance of this plant, which Mr. Bowles describes as a very pleasant Cowslip-like scent, adds to its many charms. It is found in Eastern Europe from Lombardy to Montenegro, and although used as a fodder plant, it is a real treasure among herbaceous flowers, as it may be left undisturbed for years and never fails to produce a wealth of bloom of unusual colour and sweet fragrance.—H. C.

A GOOD BEE PLANT: TRIFOLIUM PANNONICUM.

Easterman Giant.—In your issue of March 3, page 73, M. H. Scott-Nicholson gives a recipe for herb pudding, and asks if anyone knows of a similar dish. I remember forty or forty-five years ago a herb pudding being generally made to eat with veal on Easter Sunday. This was in the northern part of Lancashire (Furness). The pudding was boiled in exactly the same manner as in the recipe given by your correspondent, but only Bistort, or Snakeweed (Polygonum Bistorta), locally known as Easter Ledge, a few Chives (Allium Schœnoprasum, Linn.) and groats (not Barley) were used. Polygonum Bistorta is a native British plant, as is also the Allium. I have generally seen P. Bistorta growing among the grass in old orchards.—E. H. Greenwell.

—— This plant is Polygonum Bistorta. The etymology of the name is doubtful, and many attempts have been made to account for it, Easter usually been accepted as a certain element. Variants of the name are Easter simply: E. Magiants, E. Mangiants, E. Giant, E. May Giants, E. Ment Gions, E. Ledges and Waster Ledges, a form of the last. Dr. W. Turner, our earliest botanical writer, who was a native of Morpeth, states that it was "called of the Northern men *betes*, in the South Countrie Astrologia," and elsewhere we find Aristochia rotunda applied to this plant. Of this there were various forms, *e.g.*, Aristologie, Osteriacks, Ostericks, Ostrich, Oisterloit and Oysterloyte, and it will be observed that these and Easter Ledges and Waster Ledges have a very intimate connection. There is really no wider difference between these names and that noted last week and Aristolochia than between some other popular names and their early equivalents; for instance, Abrotanum and Appleringie, or Brooklime and the Scottish form Wall-ink and the Saxon Lleomoc. Gerarde and other early writers note how Polygonum Bistorta was cultivated in various parts of England as a vegetable, though the "'erb puddin'" only in the counties named. Your correspondent mentions Barley as forming part of the pudding. I presume he means decorticated Barley, but groats were also used and any vegetables in season. The pudding was served with veal.—R. P. Brotherston.

RUNNER BEANS

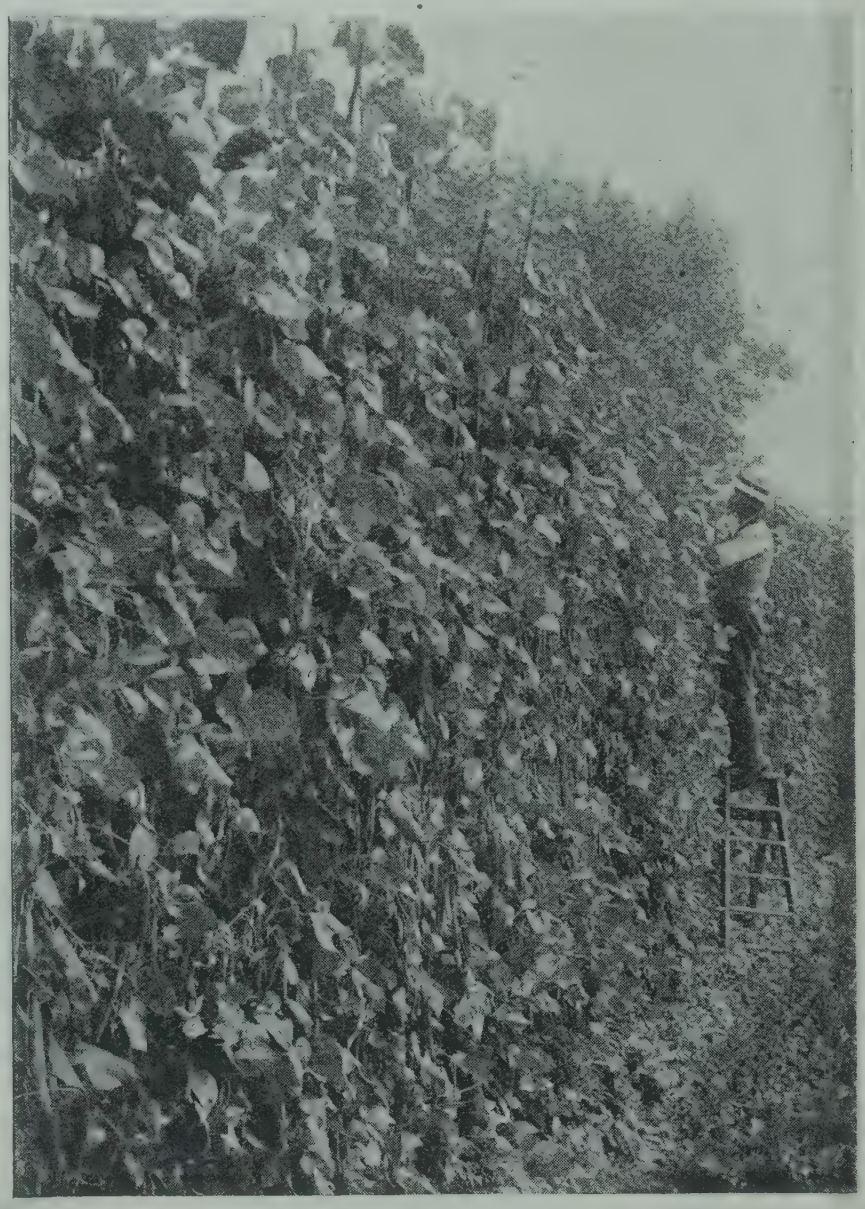
ALTHOUGH one of the most popular and easily grown of all summer vegetables, excepting where the grower makes a hobby of these, the proper cultivation of the Runner Bean seems to be very little understood by anyone outside our largest gardens; hence it is not to be wondered at that those living in remote districts, or where flourishing horticultural societies which make a speciality of vegetables do not exist, regard as "idle tales" the wonderful accounts they sometimes read of growers producing pods of the ordinary type of Runner Bean approaching 1½ feet long. Yet such as these are possible where severe thinning of the growths and the pods has been resorted to, and, even without any thinning of either, pods from 11 inches to 14 inches, hanging in bunches from a dozen to a score or more, are by no means rare, the dimensions and number mentioned often being exceeded; and to secure such needs no magician's wand or resorting to trickery on the part of the grower.

The accompanying illustration shows a row grown in these gardens in 1915, the length of the row being 20 yards, and the plants forming the row were fewer than a hundred. At the time the photograph was taken the height of many plants exceeded 12 feet, and some of the largest leaves measured nearly 20 inches across. It is no exaggeration to say that from the middle of July until the end of October several sacks of fresh pods were gathered, and at the end of the season we had over a peck of ripe seed.

As will be gathered from the foregoing, we allow each plant ample room for development, always planting in a double row, in a trench 18 inches wide. This trench is prepared upon the same site each season, the soil being excavated to the depth of 30 inches and the bottom, after being broken up, covered with a good layer of half-decayed manure. After a slight covering of soil, superphosphate at the rate of a large handful to each yard of trench is distributed evenly, and the soil first taken from the trench placed on the top of this, the rest being ordinary soil. The plants are raised in boxes, seed being sown in a warm house about the middle of April, and 3 inches are allowed each seed.

The strong stakes (which suggest Hop-poles) are put into their place before the plants are put out; a strong iron bar is used to make the holes. Each plant is given its own stick, and during its early climbing days all shoots are kept to this by the aid of bast. An ample supply of water being close to the row, this is given with a free hand, both to the roots and overhead; but instead of pouring this among the plants, the ground on either side of the row is kept loose by constant stirring, and upon this all water is poured; or a deep trench is made about a foot from the plants, this being filled with water three times a week. Soot-water is given at each alternate watering after the first pods are set, and when this stage is reached we sprinkle fish manure on each side of the row, washing this well down to the roots with rain-water. The photograph, although showing the height, gives but little idea as to the extraordinary profusion of pods, but the photographer, who is certainly one of the best known in the country where horticultural subjects are concerned, informed me at the time of taking it that never in his experience had he seen such a large number on a given space, and before taking the photograph he satisfied himself that all were "a-growing and a-blowing," none having been tied on for the purpose of making a better show.

Oxford. F. R. CASTLE.



A ROW OF RUNNER BEANS TWELVE FEET IN HEIGHT.

THE ALLOTMENT WEEK BY WEEK

BY A. CECIL BARTLETT.

IN the present circumstances saladings will give the allotment holder the quickest tangible returns for his labour. It is a good plan to sow small quantities of Lettuce seed at fortnightly intervals, and for most families half of a row across the plot will be ample at each sowing. As the plants should be 9 inches apart during the early season and 12 inches apart later on, the seed should be sown very thinly to avoid waste as well as overcrowding. It is a good method to draw shallow drills and place three or four seeds at the intervals before mentioned, marking the places with twigs, and in due course thin the seedlings to one at each station. Radishes also should be allowed more space than is general, otherwise the crowded seedlings throw up flower-stems instead of forming roots. The Radishes may well be grown throughout the season as catch-crops; for example, between the seed rows of Onions, Beet and Carrots, or later by the side of the Pea and Bean rows as soon as the legumes are staked. Those who have frames will soon be planting out the vegetable seedlings raised in them, and then the frames may be utilised for a few Cucumber plants. If all preparations are made beforehand, so that there is no delay in making up a hotbed, the seeds may be sown in the frame, placing three in a group where one plant is desired; otherwise it will be advisable to procure plants. Ridge Cucumbers may well be grown in the open, similarly to Vegetable Marrows, and with both it is advantageous to start with plants raised in a frame, remembering that these plants require full sunshine, liberal treatment and abundance of water as soon as they are established.

Probably no detail of gardening bothers the beginner more than the artificial manure question. How and when to use organic manures he generally has a plain and workable idea, but soon realises that the safe and profitable handling of the chemical kinds is fraught with difficulties. Generally, stimulants are not essential for crops growing in freshly turned grassland during the first season, but such gross feeding plants as Celery, Runner Beans and Cabbages yield better returns if stimulated at the right moment. But the chemical manures, from now until the autumn, should be looked upon as stimulants rather than as food, and so "little and fairly often" should be the rule. Following this rule prevents the possibility, if not probability, of losses by over-applications.

Beets readily respond to a stimulant, but none should be given to Carrots or Parsnips unless the former are attacked by wireworm or similar pests; then a couple of fortnightly doses of sulphate of ammonia, two parts, to five parts of superphosphate, well mixed together and spread between the rows at the rate of 2oz. to each yard run, will often prevent serious loss of crop; and this mixture may also be used for Beets during the season of growth, with admirable results.

To obtain the fullest value from the use of the chemicals named, it is essential that sufficient lime is available in the soil, and if the plot was not limed as soon as the first digging was completed, lime at the rate of three-quarters of a pound per square yard should be spread and stirred in before attempting to apply the chemical manures. In the case of medium and heavy soils which have previously been under grass, 2cwt., or, better still, 2½cwt. spread over a 10-rod allotment immediately it is dug will alone be sufficient addition for the first year's crops.

THE WISLEY LABORATORY

THE accompanying illustration of the Royal Horticultural Society's Laboratory at Wisley forms the frontispiece of the recently published Journal of the Royal Horticultural Society's Gardens Club. The following note accompanies the illustration :

"The frontispiece shows a distant view of the new Laboratory, which was completed last June, long after the date we had expected to be in it, but delayed, like everything belonging to the arts of peace, by the war, which has called for all our efforts. It is a beautiful building, in keeping with its beautiful surroundings, and will, we feel sure, when the victorious conclusion of the war has ensured the peaceful pursuit of the purposes for which it has been erected, prove admirably suited to the prosecution of enquiries into the best ways of growing plants, and to the teaching of the results obtained to others.

"Enlarged accommodation for the teaching of students is provided by the building of a students' chemical laboratory and a lecture room, the old students' laboratory being now devoted to botany alone. In addition, accommodation is arranged for research in vegetable physiology, chemistry and electricity in relation to plants, entomology and mycology; and ample space is afforded for the staff and research students in these branches of investigation. Little is possible at present, for only members of the staff ineligible for military duties are at work there; but much is possible in the future."

We quite agree that much is possible in the future, and we, in common with others, expect great things from the staff of experts and this well-appointed laboratory. There is need for investigation in many directions, more especially with regard to fruit and vegetable crops. A subject which calls for immediate attention is how to combat the Potato disease. Owing to the famine in Potatoes, we fear that many growers will be tempted to plant unsound tubers, and this may lead to a serious outbreak of disease at a later date. We understand that the authorities at Wisley and the newly formed Department of Horticulture of the Board of Agriculture, under the direction of Dr. Keeble, have this subject under consideration, and there is every reason to expect that a spraying campaign against Potato disease will be organised throughout the country.

The following problems relating to economic crops have been under investigation at Wisley during the past year. The control of American Gooseberry mildew and the effect of Burgundy mixture in preventing the summer stage of the disease on the berries, Potato diseases and Apple fruit spot, by Dr. A. S. Horne; owing to Dr. Horne being called upon for munition work, we fear that some very useful investigations have been stopped; the effect of electrical discharge on the yield of market garden crops, by Mr. F. J. Chittenden, F.L.S., in collaboration with the Imperial College of Science and the Board of Agriculture; problems connected with pollination in orchards and with the fruiting and growth of fruit trees, by Mr. F. J. Chittenden, F.L.S.; breeding of hardy Peas, by Dr. Keeble, F.R.S.; and breeding of Strawberries, Blackberries and other Rubus fruits, by Dr. Keeble, Mr. Wright and Mr. Wilson. In addition to this Mr. J. R. Ramsbottom (special research student), is investigating the so-called Fusarium disease of Narcissi, and has we believe discovered three separate diseases commonly referred to as Fusarium.

THE GROWING OF VEGETABLES

By MRS. C. W. EARLE.

I THINK the Globe Artichoke (Cynara Scolymus) one of the very best of vegetables when it is the right kind and well cultivated. When I came to live in Surrey many years ago, I was told, even by a good gardener, that I should never get Artichokes good here. A certain old kind that all goes to leaf is of no use at all. I obtained from Vilmorin of Paris the seed of a comparatively low-growing kind, called Large Green Paris Artichoke. Every April we take off the growths, leaving only about three to each plant. Each year one or two rows are taken up, and two new ones planted, with the suckers taken off. In the late autumn a little straw is put over the plants, and they have never died; but they have been hard hit this winter. We cut the Artichokes while young, and every year we have quantities, the newly planted pieces coming in later in the year. We plant three cuttings together. It is well to remember that both cows and goats enjoy the big grey-green leaves, and will rush across a field to get them. I should be delighted to give away some cuttings to anyone who likes to write and ask for them in April, as long as they last.

There is such a large variety of Cabbages that everyone must find out for himself what suits him best. I infinitely prefer all sorts of Cabbage to Broccoli and Cauliflower, which are more difficult to grow. I found, some years ago, in a cottage garden in Berkshire a sort of Tree Cabbage. I could get no name for it but "Cut and Come Again," which truly describes it;

THE ROYAL HORTICULTURAL SOCIETY'S LABORATORY, WISLEY, AS SEEN FROM THE FRUIT QUARTERS.

it is most useful, grows easily from cuttings, and when not wanted can be given to the fowls or the pigs. Red Cabbage is not often grown, or, at any rate, not given space enough to be well grown, because in the catalogues it is called Pickling Cabbage, as if it was not otherwise useful when cooked in various ways. It should be cut into very fine shreds, then scalded by pouring a kettle of boiling water over it, and when cool, but not cold, it should be dressed with oil and vinegar and a few herbs if you have them covered up, and allowed to stand for two or three hours.

This is a good way of cooking a spring Cabbage. Split it and wash it in salt and water. Put it in a saucepan of boiling water for ten minutes, take it up, drain on a sieve, put it with a little butter in a casserole for an hour to braise, and add pepper and salt to taste, but no stock or water.

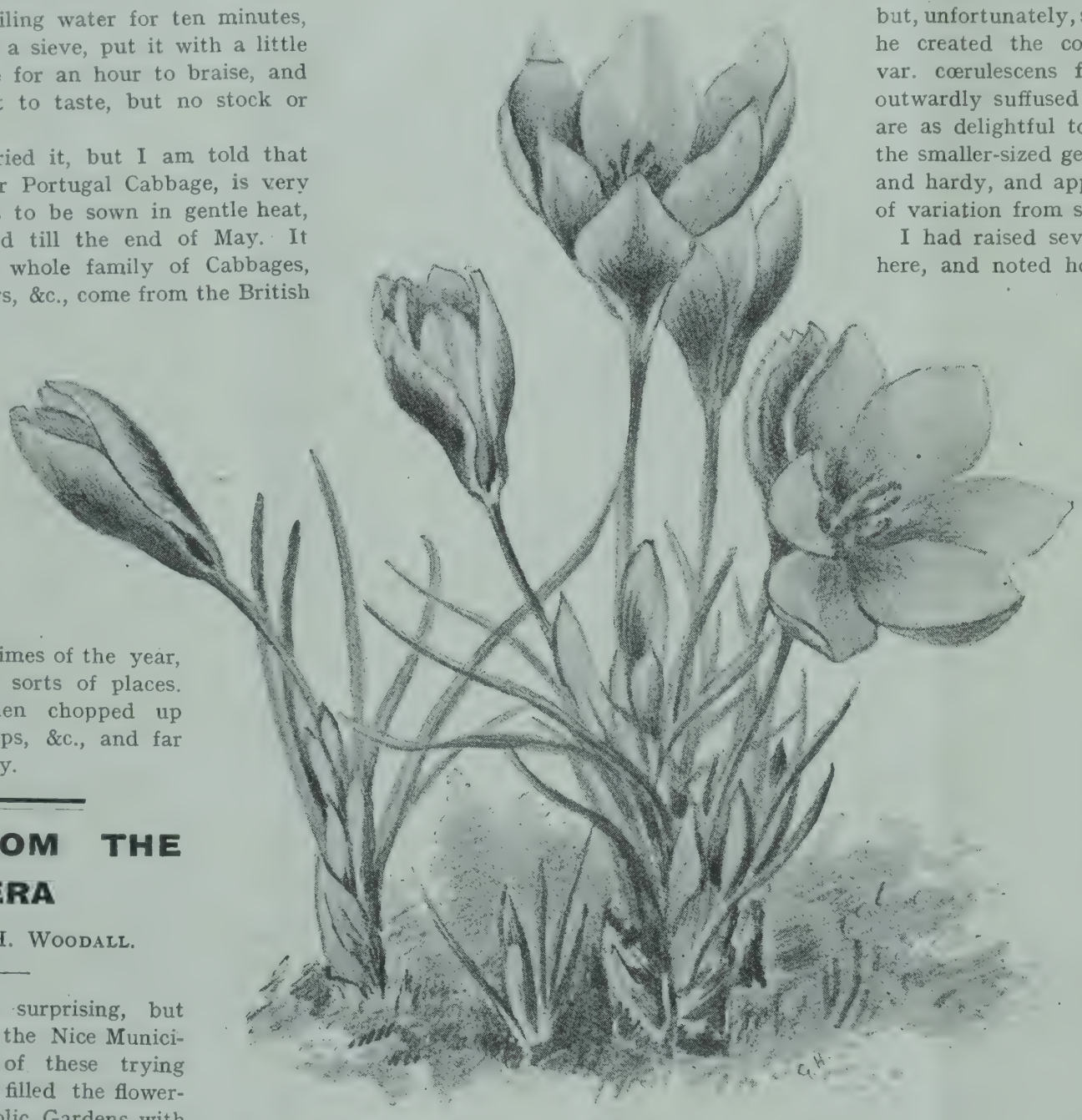
I have not yet tried it, but I am told that Couve Tronchuda, or Portugal Cabbage, is very good. The seed has to be sown in gentle heat, and not transplanted till the end of May. It is curious that the whole family of Cabbages, Broccolis, Cauliflowers, &c., come from the British wild plant, Brassica oleracea, which grows on the cliffs near Dover, a tall, straggling plant with a pretty yellow flower.

Chervil is not often seen in small English gardens, but it is a very useful herb; it sows itself at all times of the year, and comes up in all sorts of places. It is excellent when chopped up in salads, clear soups, &c., and far hardier than Parsley.

NOTES FROM THE RIVIERA

BY EDWARD H. WOODALL.

IT sounds rather surprising, but it is true, that the Nice Municipality, in spite of these trying war times, have filled the flower-beds of the Public Gardens with finer flowers than usual, as if to show to Serbs and Belgians and the expatriated North France refugees that here they may escape from war's alarms to an unwonted degree. The spring before the war, Messrs. Vilmorin showed a strain of very dwarf Cinerarias with long, loose and shaggy petals, which in the show did not appeal particularly to me, in spite of the excellent habit and splendid foliage, This year the town's gardeners at the Château have produced a strain of this type, which has been well grown and appears particularly suited to outdoor bedding such as is practised here. Though the winter has been particularly wet and cold for weeks, there has been no frost to speak of, and with the fine weather now prevailing these beds of Cinerarias are in surprising beauty. Owing to the loose and shaggy petals, the colour of the flower-head is no longer "hard," as in the old type, as the shading of the back of the petals tones down the brilliance of those that show the upper surface, and the effect of these bouquets of shaded colours in the distance is quite unlike that of the older types. A friend admiring their unusual colouring and beauty agreed with me that at a distance you would say, "What glorious beds of Parma or Princess of Wales Violets—one almost fancies one could smell them!" These two shades of colour are by far the most beautiful in this strain, and with other beds of fine rose-coloured Cyclamen, tall white stellata Primulas, and scroll beds of a huge pink-tipped double white Daisy of much merit, some most charming effects are secured.



CROCUS CHRYSANTHUS WARLEY VARIETY.

Violas, too, are very good, but Carnations are nowhere seen to advantage, as the long-continued wet and cold have ruined their health this winter; but the hardy Stocks and ever-welcome Violets and Anemones are as fine as ever and scent the air on the terraced hillsides. The gardener's activity this spring will, however, be devoted to vegetables rather than to flowers, as the demand, no doubt, will be great, and even on this coast vegetation is quite a fortnight behind time at present, so that there must be a period of relative scarcity later in the season.

Tulipa saxatilis is in flower already, proving itself to be the earliest of its race, and rivalling the garden Duc Van Thol and early yellow Tulips from Holland.

CROCUS CHRYSANTHUS WARLEY VARIETY

CROCUS CHRYSANTHUS is the most variable in its range of coloration of all the species. It was first known in its plain rich yellow form, and its specific name then fitted it well. Maw gave varietal names to those with more or less bronzed or feathered outer segments, but still golden as a guinea within. Yet again he found white forms, and that with no other colour about it than a golden throat became var. albidus, but, unfortunately, seems to have died out. Lastly, he created the contradictory sounding title of var. cœrulescens for forms with white flowers outwardly suffused or marked with lilac. These are as delightful to grow and look at as any of the smaller-sized gems of the family, being sturdy and hardy, and apparently endless in their range of variation from seed.

I had raised several generations of this strain here, and noted how some of them had cream-coloured or sulphur yellow outer segments that seemed halfway back again to the golden glow of the typical form, when one day came a parcel from Mr. John Hoog of Haarlem containing a very fine form of a blue and white Crocus and a letter asking me what cross I thought had entered into the parentage to produce such a sudden break in C. chrysanthus. I replied I was certain it was a pure-bred chrysanthus, and that some of its seedlings might give yellow forms later on. This, I learn, has occurred at Haarlem; but here, for some unknown reason, all the seedlings I have raised from it have been so much alike their mother and grandmothers that they are not worth separating from the family gathering. It was shown by Miss Willmott at the Royal Horticultural Society's meeting on February 14, 1905, and received an award of merit under the name it now bears. It is one of the pleasures of a fine February morning to see a clump of this Crocus with its closely packed flowers widely expanded in the sunshine. They are of a soft creamy white, with rich orange throat and scarlet stigmata, but are lovelier still when only half open and the rich purple staining on the backs of the outer segments is visible. It is an excellent variety to use in the rock garden, and if replanted every three or four years should increase rapidly. E. A. BOWLES.

[Our illustration gives a fair idea of the natural size of this exceedingly pretty Crocus, which like others is this year much later to flower than usual. Not only is it such an excellent variety for use in the rock garden, but it is one of those dainty little flowers we like to see early in the year in a pan in a cold Alpine house.—ED.]

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATE.

Lælio-Cattleya General Maude (L.-C. rubens var. Lambeauiana × C. Hardyana).—One of the most handsome, richly coloured bigeneric hybrids we have seen. The large, broadly ovate, deep rosy mauve sepals and broad, crimson purple lip yellowed somewhat at the tube endow it with a presence of its own. It is not merely of large and handsome proportions, but exceedingly well balanced in all its parts.

AWARD OF MERIT.

Lælio-Cattleya The President (L.-C. St. Gothard × C. Enid).—In this the rosy mauve petals and sepals are of paler hue, the former broad, with a distinctly wavy margin. The lip is broad, open and spreading at the front, heavily goffered or pleated, of rich crimson velvet tone, with a suspicion of white at the back. These two excellent novelties were shown by Messrs. Charlesworth and Co., Hayward's Heath.

The foregoing novelties were exhibited before the Royal Horticultural Society on March 13, when the awards were made.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Hardy Fruit Garden.

Gooseberries.—Where any alterations have been carried out by replacing old trees on walls with young ones, the vacancies may well be filled with cordon-trained Gooseberries, which will give quantities of early fruit and thus profitably fill the gaps on the wall. It is not necessary to obtain cordon-trained trees; the ordinary bush with half a dozen shoots will answer equally well. Retain as many shoots as the wall space will permit, taking the point out of each shoot to enable the lower eyes to push into growth to form spurs for future crops. Until the soil has settled down to nearly its natural level, do not tie the shoots to the wall. Complete the pruning of any bush trees that were left, owing to the liability of their buds being eaten by birds. Trees that are intended for the production of green berries only need not be thinned so much as those trees that are to produce ripe fruit. The more branches there are in reason, the greater quantity of fruit is obtained, especially when upright-growing sorts like Golden Drop are grown.

Red and White Currants should also have the final pruning carried out. Close spur pruning produces the greatest quantity of fruit and keeps the main branches thin. Too many bush trees are kept too low to yield the greatest bulk of fruit. In the ordinary garden the trees are not allowed to grow more than a yard high, whereas they could easily be grown with advantage 5 feet high. The extra 2 feet of growth would greatly increase the yield of fruit. Any trees that show signs of moss or lichen should be syringed with lime-water.

Strawberries.—When the weather is suitable, hoe over the plot to remove weeds and let air into the soil about the roots, especially where the soil is heavy, with a hard pan-like surface after so much wet. The stirring of the soil facilitates growth considerably. Fill any gaps in young plantations to avoid patchiness and loss of crop in the future.

Peach and Nectarine Trees should be finally pruned and trained. If the trees were gone over in the autumn before the leaves fell, there should not be much pruning to be done now. Too many trees are left until this season, whereas it would have been so much better if they had been pruned when the fruit had been gathered; this would have enabled the wood to become matured. Train the shoots thinly; as a rule they are much too thickly placed, which does not permit of the leaves becoming fully developed, and without this success cannot be expected. Any extra gross shoots are better cut out; they never can be useful.

The Flower Garden.

Roses.—In sheltered districts the first batch of dwarfs of various sections can be pruned. In the case of Hybrid Perpetual varieties and the bulk of the Hybrid Tea section, cut the plants well back to within three or four eyes to induce extra strong growth. This is all the more in favour of autumn flower, which is perhaps as much appreciated by the bulk of amateurs as extra fine blooms during the summer months. Planting of varieties of any section that could not be done in the autumn should be completed without delay, with the exception of plants in pots; these can remain until the early part of April. Ramblers should be finally pruned and tied to the supports without delay, or the buds will be injured in the training of the shoots. Do not overcrowd the branches; cut away weakly shoots where not required. Where there are a number of growths on pillar-trained plants, cut some at various lengths (2 feet and 3 feet) with a view to furnishing the base of the pillars more fully, as in the ordinary method of pruning the whole of the shoots to full length the pillars are liable to become bare even of foliage for several feet upwards in a few years.

The Shrubberies.—Now is a good time for the planting of hedges of such subjects as Thuya Lobbii, T. occidentalis, &c., as well as common Laurel and Evergreen Privet. The Caucasian variety of Laurel is superior to the common sort for hedges, as it grows more compact; is deeper in colour tint, and is hardier. The better the preparation in trenching the site and the addition of manure at planting-time, the more likelihood there is of luxuriant growth. This tends to success in the formation and the future welfare of the hedge.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celeriac.—This Turnip-rooted Celery is a most valuable adjunct to the other sorts, and can be grown with a great deal less labour, as no trenching or earthing up is necessary. Seed may be sown with the main sowing of Celery in the usual way under glass; but when planting it out, a well-cultivated piece of ground should be chosen. Plant on the level, in lines 15 inches apart, and the same distance apart in the rows. The lower foliage may be used during late summer for flavouring, and this also has a tendency to allow the tuber to swell better. When growth is completed, the tubers may be lifted and stored in sand in a cool cellar.

Celery.—Main sowings should now be made. Choose good crisp, hardy-growing varieties suitable to the particular district. We find Leicester Red and Standard Bearer our best reds, with Market White for earlier use.

Seakale.—Sets that were prepared some time ago and stored in sand should now be planted in suitable quarters, so that strong plants may be obtained for forcing next year. The ground should be well manured and deeply dug. Mark off shallow drills and dibble the sets in about 18 inches apart, cover lightly over, and after growth commences rub off any superfluous shoots, leaving only the strongest crown. Attention should be given during summer, using the Dutch hoe frequently.

Strawberries.—Where spring planting is favoured, new plantations of these may now be made. Runners that were planted in frames and reserve beds for this purpose will now have started into growth, so should be carefully lifted and transferred to the new ground, planting in rows 2 feet apart and allowing 15 inches between the plants in the rows. It is essential that the ground should be in good heart. If well trenched and liberally manured during the autumn months, it will now break down freely, and the plants will have little difficulty in establishing themselves before the hot, dry weather comes in.

Melons for Frames.—Seed should now be sown to obtain plants for this purpose. After germination the plants should be kept growing in genial quarters, transferring them to the hotbed when the outside temperature increases. Plant on well-raised hillocks, and place the soil in the frame some days previous to planting so that it may be thoroughly warmed.

Fruit Under Glass.

Peaches.—Trees in flower must be attended to in the way of artificial fertilisation, as insect life is not yet much in evidence. Excellent results may be obtained by the use of a rabbit's tail for this purpose. By using it lightly the pollen will be effectively scattered and a good set of fruit ensured. In our particular district the ravages of the Isle of Wight disease among bees tells against natural fertilisation, our busy little friends being completely wiped out by this scourge.

Plants Under Glass.

Bouvardias.—Stock plants should be encouraged in growth, so that in due course a good supply of cuttings may be obtained.

Abutilons.—Cuttings of these root readily now, and are well worth growing for decorative purposes. Nice bushy plants may be had by judicious pinching and keeping the plants when in a young state as near the glass as possible. The variegated variety, Savitzii, is well worth growing, our general practice being to insert three cuttings in each pot, and in this way obtain well-furnished specimens more quickly. A good loam with a proportion of peat and sharp sand suits them admirably.

James McGran.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ABOUT SWEET PEAS (*Climas*).—Use the dissolved bones at the same rate as the superphosphate in previous years—about 3oz. per yard run of trench. We are sorry to hear that your seedlings have been so seriously damaged, but if you write to Messrs. Bucks, Tresco Nurseries, Ipswich, you may obtain plants of all the varieties mentioned, and this will enable you to obtain flowers as early as in former years.

THE GREENHOUSE.

CAMPBELL'S SULPHUR VAPORISER (*W.*).—We have had no personal experience of this, but have heard a good deal in its favour. It can be obtained from the principal horticultural sundriesmen, who on application would give you all the information you need.

BEGONIA FUCHSIOIDES (*G. Y.*).—This Begonia will not respond to such a drastic cutting back as suggested in your letter, for it will not break out into growth as readily as many other kinds. The plants may, of course, be shortened back, but not into such old wood as would be the case if you cut them back to within a foot of the pot. In any case, by no means repot them before cutting them back, as this operation must be done first; then, as soon as the young shoots are pushed forth, the plants should be repotted. This Begonia is not at all difficult to strike root from cuttings of the young growing shoots. Such being the case, you may, if you wish, propagate a few young plants, which will gradually come on to take the place of the old ones. The cuttings, which should be from 2 inches to 3 inches in length, must be put into pots of sandy soil and placed in a close propagating-case in a warm structure till rooted.

GROWING TOMATOES IN BOXES (*No Garden*).—You certainly may expect to get very heavy crops of fruit from plants growing in the position named, and boxes will answer even better than if you planted in a large bulk of soil. Boards 9 inches wide would answer for the sides, but let those at the top be an inch wider; this will allow the side boards to be nailed in such a way as to leave an inch at the bottom for surplus water to drain away, thus avoiding holes being bored in the bottom. When preparing the boxes, cover the bottom to the depth of an inch with cinders or small stones, and upon these place a covering of moss, decayed leaves, or manure in order that the finer soil may not easily clog the drainage. If you make these boxes a foot wide, you may plant the Tomatoes in a single row, allowing 15 inches between the plants. The soil recommended in the article will be quite suitable, and no unpleasantness need be feared. Do not fill the boxes at the start, but allow 2 inches of space at the top for more rich soil to be added when the first fruit begins to swell. Liquid manure is not necessary; but if this is not given, a sprinkling of one of the advertised proprietary manures should be given every week after the fruits on the first truss attain the size of Walnuts.

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

INTENSIVE POULTRY CULTURE

THIS week I continue my notes on the intensive system of poultry-keeping, and in order to make my articles the more readily followed I give a reproduction of a small intensive house. This is the type of house used on Miss J. P. Lea's farm at Little Nalders, Chesham. The wire-netting front of the structure, as will be seen from the illustration, is controlled by two canvas screens or shutters, the lower one being "buttoned" when closed.

Sitters *v.* Non-Sitters.—Not very long ago it was a common fallacy to consider that the *light* breeds, or non-sitters, were purely summer layers. Thus it became the general plan to keep both light and heavy (or sitting) breeds to equalise the supply of eggs all the year round. The White Leghorns would be relied upon to supply the spring and summer eggs, and, say, the Buff Orpington to fill the baskets in the autumn and winter months. With the arrival of the intensive system this fallacy fell to the ground. It allowed of dry and comfortable housing and ample litter to scratch in, and the non-sitters, thus protected from the bitter outer elements, produced surprising results. Under the old *régime* the light breeds were considered profit-eaters in the winter months, and the owner bestowed little care or attention upon his birds. He nursed his heavy breeds and fed them well, and waited for the spring before he expected eggs from his non-sitters.

White Leghorns.—The active little White Leghorn to-day, under suitable housing methods, takes its place at or near the top of all the laying competitions and against all the heavy-weights. Mr. Henry Sutton's May Queen beat the world's laying record in the 1913–14 Harper Adams' test by laying 288 eggs in the twelve months Again, in the Seddlescombe 1913–14 test, Mr. G. B. Metcalfe's eight White Leghorns laid 1,751 eggs in the twelve months. Surely so many eggs could not have been crowded into the spring and summer months. Nor must we forget that on the large intensive plants in America the White Leghorn is kept exclusively!

Selecting a Breed.—Although the light or non-sitting breeds are perhaps more suited to the intensive methods of poultry-keeping, the heavy or sitting varieties will prove in every way successful if properly handled. Of the non-sitters, the following can be recommended: Black, White or Brown Leghorns, La Bresse, Anconas, Campines, Minorcas, Sicilian Buttercups and Andalusians. As regards the heavy breeds, I might single out Rhode Island Reds, Sussex, White or Black Wyandottes, Buff Rocks and White Orpingtons. With any of these sitting varieties, however, I strongly advise readers to adopt a medium-sized type of bird and to keep the layers as active or occupied as possible. These precautions will guard against the hens getting too fat, and will ensure that racy laying condition which is to be desired and aimed at.

Choice of Males.—I have already pointed out the importance of stocking intensive houses with selected laying birds, and a few words on the choice of the male will not be out of place. It is only in recent years that the poultry-keeper has given any consideration to the master of the pen, and yet he is a highly important link in the chain of increased egg-production. Not many seasons ago the poultry-keeper argued that "cocks didn't lay eggs," and no matter what amount he paid for his pullets or hens, he would not go beyond five shillings for the "boss." So universal was this that breeders when supplying half a dozen hens or pullets threw the male bird into the bargain as a kind of "make-weight." Where a flock of layers is kept in an intensive laying house, the owner should aim at satisfactory *individual* egg-outputs. Drones are profit-eaters, and the less of them in a flock the better. By using high-class pedigree males the owner makes one good step towards producing a level-laying lot of pullet

INTENSIVE POULTRY-HOUSE.

An interesting snapshot showing two lady pupils at work on Miss J. P. Lea's Poultry Farm, Little Nalders, Chesham, Bucks.

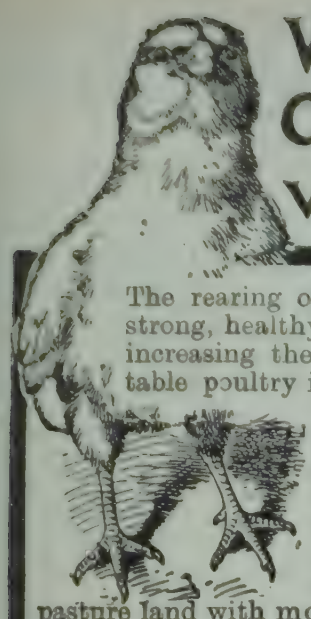
The Utility Male.—The utility qualities of a male are judged by the laying performances of his mother and grandmother, and all interested in breeding for increased egg-production will do well to select the sire with great care. If I were anxious to establish a strain of deep-brown-egg layers, I should use sires whose dams and granddams laid rich brown eggs. Again, if I desired to breed broodiness out of my strain, I would select to head my pens sires whose dams and granddams were not given to excessive broodiness. Our best breeders of laying stock now attach great importance to the pedigree of the sire, and on Mrs. Goodwin Preece's farm at Shrewsbury no male is used unless his mother laid 250 eggs or over in her first or "pullet" year. If my readers possess any particular hens which stand out from the rest as regards egg-output, let them make full use of the males bred from such birds. Beginners in poultry-keeping will find their "battle of the shells" half won by paying a good price for each male bird, instead of writing to the breeder, "He is only wanted for utility purposes, and anything will do."

Drones and Workers.—Layers can be divided into two groups, viz., drones and workers, and every poultry-keeper should endeavour to eliminate the former from his flocks as far as possible. There is not the least doubt that the trap-nest is a boon to poultry-keepers, and my only regret is that this "detective of the roost" is not more widely used. It never fails to detect the drones, for, as each hen enters to lay, the drop-board automatically falls and the bird cannot obtain freedom until the owner calls and releases her, afterwards resetting the nest. The owner is thus able to discover which birds are eating away the profits of the other members of the flock, and all the trouble necessitated by trap-nesting is well repaid.

Trap-Nesting.—It is surprising the number of *barren* hens one meets with, and yet such birds go scot-free unless the trap-nest is entrusted with the duties of finding them out. Trap-nesting, it is argued by the unprogressive poultry-keeper, is too troublesome; but surely nothing is too laborious if it is the means of our gaining the goal aimed at. As I have previously stated, it is more profitable to stock a laying house with workers than drones.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C.



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PRACTICAL POULTRY POINTERS

FEEDING

Powdered charcoal sprinkled occasionally in the soft food will keep the birds healthy. It is a good blood purifier.

* * *

Grit and shell perform quite distinct functions. The former aids digestion, while the latter helps shell formation.

* * *

Variety in feeding will give the best results, but one must not be constantly changing the menu. Extremes are harmful.

* * *

Sunflower seeds are rich in fats or oil, and the medium-sized flowers should be cultivated on all vacant spots.

EGGS

Eggs stored for incubation should be turned daily, and should for preference be placed on their sides.

* * *

Water represents over 70 per cent. of the contents of an egg. Moral: Give clean water to drink!

* * *

Collect eggs regularly. Especially is this necessary in cold, frosty weather, when the shells are liable to burst.

* * *

Grading of eggs is often done by means of a simple board with holes therein of different sizes.

* * *

Length of eggs is often the deciding factor in the method of grading. Strips of wood are nailed on a board, the spaces between being of various measurements.

HOUSING

Internal fittings of poultry-houses should be removable and not fixed, to allow of proper cleaning.

* * *

Draughts are harmful, although fresh air is a desideratum.

* * *

Inlet ventilators should be low and outlet ones as high as possible, since foul air rises.

* * *

Perches should be 2 inches or 2½ inches wide, and the top corners where the birds' toes go should be slightly rounded off.

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Practical Expert Advice on the Feeding of Poultry.

WILLIAM H. COOK, LTD., have for many months given the above their serious attention, due partly to the fact that many thousands of their customers are asking "How to feed, and what to purchase?"—especially as their difficulties in obtaining supplies locally are ever increasing. They have now placed on the market TWO of the best and cheapest MEALS ever offered to POULTRY-KEEPERS.

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EXTRA CHOICE CLIMBING ROSES.—6 splendid varieties, strong, vigorous trees, all different and correctly named. 6 for **4/6** ; 12 for **7/6.** Real bargain. Large size. These will give something more than mere satisfaction.

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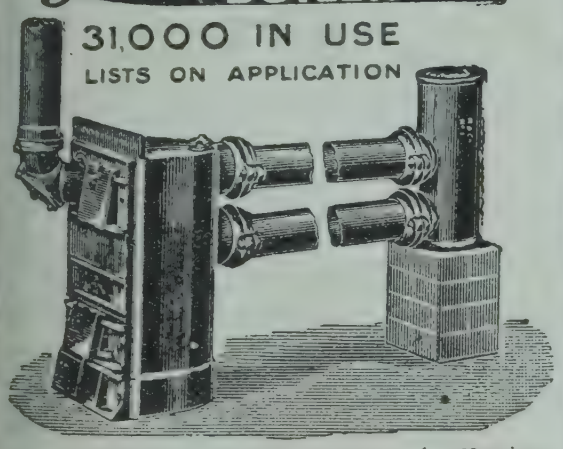

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Blue (Light)—Flora Nora Spencer	6d	3/6
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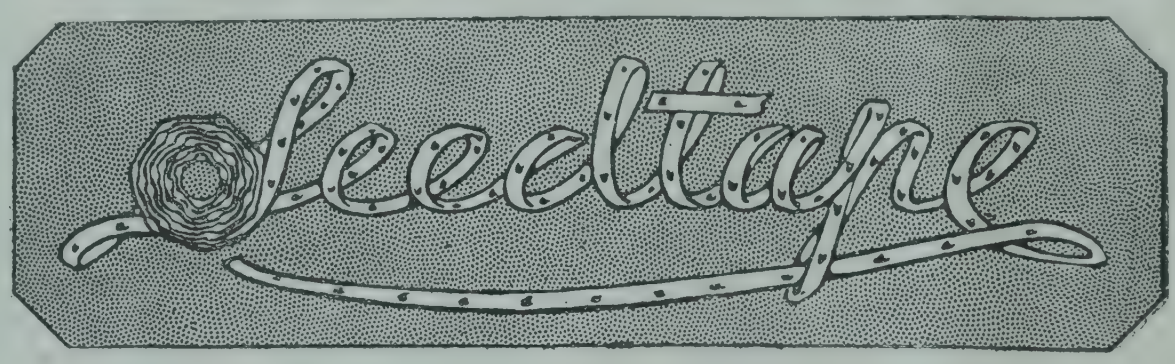

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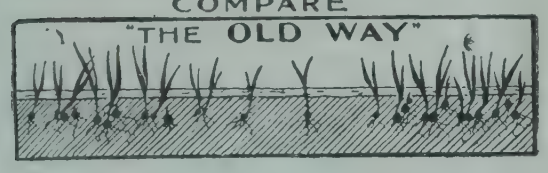

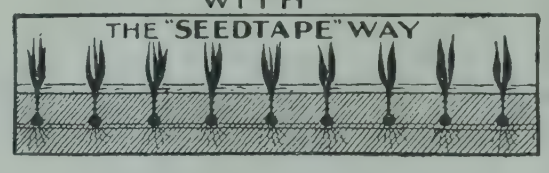

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WRITE FOR ILLUSTRATED CATALOGUE.

THE GARDEN.

No. 2367.—Vol. LXXXI. March 31, 1917.

NOTES OF THE WEEK

THE Order regulating the price of seed Potatoes put nurserymen and seedsmen who published catalogues in December and January last in a very awkward position, and strong representations have been ade on their behalf by the Horticultural Trades ssociation. In response to these the Ministry Food Control have now announced that they e prepared to grant licences to seedsmen to sell nd-picked seed Potatoes of any variety up to lb. of one kind at the prices advertised in catagues that were already in circulation, the sale under ese conditions being permitted up to May 31. pplication for the licence is to be made by dividual firms, accompanied by copy of their catalogue, to the ecretary, Ministry of Food Conol, Grosvenor House, Park Lane, ondon, W.

The Spring Snowflake.—The companying illustration shows a retty cluster of the Spring Snowake (Leucojum vernum carpatium) now flowering in the rock arden at Kew. These delightful owers are particularly welcome his year, the growing bulbs aving survived the ordeal of ost which has made so many ants look as though they had een either burnt or trampled ver.

Pruning Clematis Jackmanii. o many complaints are made by eaders that this beautiful Clematis not a success in their gardens hat a hint or two, now that the eason for pruning is at hand, will e opportune. As the flowers are roduced on the shoots of the urrent year, fairly hard pruning is he most satisfactory. Shortening f last season's growths, even if they re 5 feet to 6 feet long, to within 12 inches to 8 inches of the old wood is quite worth while, he result being increased vigour of the new hoots. When a choice of positions for planting s available, select a west or north-west aspect.

Lime as a Manure.—In view of the scarcity f artificial manures, the Board of Agriculture n a circular letter call attention to the advantages f applying small quantities of lime in localiies in which it can readily be obtained. Lime is itself an essential plant food. It will lso unlock some of the stores of nitrogen and otash in the soil, especially on well-worked but eavy soils, and as a temporary measure may therefore take the place of part of the manures which the land would otherwise require.

The Swede and the Turnip.—In the very helpful article in this issue entitled "To Save Potatoes," Miss Jekyll implies that the Swede is not a Turnip but a Cabbage. This is hardly correct, as both Turnip and Swede belong to the Brassica family and are according to Prof. L. H. Bailey's classification varieties of the same species. The confusion into which the Brassicas have fallen is in some measure due to the various vernacular names in different countries. The Turnip is botanically Brassica oleracea Rapa, and the Swede, known to the Flemish farmer as Rutabaga, is Brassica oleracea Napo-brassica. Whatever their origin may be, the two root crops differ in texture and flavour, while there are also marked differences in leaves and flowers.

THE SPRING SNOWFLAKE, LEUCOJUM VERNUM CARPATICUM.

Globe Artichokes.—Where a quantity of these are required, it is a good practice to lift a third of the plants each year. By doing so, those that are moved will come into bearing after the others are over. In most districts growth will now be sufficiently advanced, so that planting may proceed. Before doing so, see that the ground has been well manured, as these Artichokes are gross feeders.

Resowing Broad Beans.—From different parts of the country we hear reports that the autumn-sown plants of Broad Beans have been crippled by the recent severe frost and cutting wind. In such cases it is imperative to at once make other sowings in the open, also in boxes in gentle heat, for planting out when 3 inches high.

Early Maturing Cabbages.—In order to remedy the loss of spring Cabbages caused by the severe winter, owners of glass houses and frames should sow seeds of quick-maturing varieties at once, with the object of distributing seedlings among allotment holders. The following varieties of summer Cabbages, in order, were the quickest to mature in a recent comparative trial at the Royal Horticultural Society's Garden at Wisley: Best of All (Barr and Sons), Harbinger (Nutting), Express (Nutting), Earliest (Sutton and Sons), First Crop (Johnson) and First (Cooper, Taber and Co.).

Hardy Savoy Cabbages.—There are undoubtedly certain varieties of the Savoy Cabbage endowed with hardiness in greater degree than others, a fact clearly enough demonstrated by an exhibit of these useful vegetables at a recent exhibition of the Royal Horticultural Society. These came from the Wisley Gardens of the society, and formed part of a trial held last year. To-day, however, an additional value attaches to them, seeing that they passed unscathed through one of the most trying winters on record. In these circumstances no apology is offered for bringing these exceptionally hardy sorts into greater prominence. They were Ormskirk, of which stocks came from Robert Sydenham, Limited, Birmingham, and Messrs. Nutting and Co.; Selected Green Curled, an excellent variety of medium build, received from Messrs. Dobbie and Co., Edinburgh; Late Drumhead, from Messrs. Nutting and Co.; and New Year, from Messrs. Sutton and Sons, Reading. The first named were fairly large; while New Year, a medium to small Savoy, very fresh-looking and compact, appeared to be an ideal sort for gardens of limited extent.

*** Owing to the shortage of paper, readers who have not already done so are asked to order* The Garden *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

The Villa Garden.—I have no wish to have the last word on the question of the small garden, but as Mr. Dillistone has done me the honour of saying that I have raised questions well worth consideration, I may perhaps be allowed to say that I am not convinced that within the compass of the villa garden any such irresponsible garden as he suggests is legitimate. There must be a general formula in plots controlled by the four sides of a rectangle of these small dimensions. This formula, in my opinion, can only be varied by questions of aspect or the positions of doors and windows in the design of the house. The view of a row of villa gardens from an upper window of most houses is a weariness to the trained eye. Mr. Dillistone says I would not ask for such regularity in the furnishing of a room as I ask for in a garden; on the contrary, I would do so to a very large extent. The villa drawing-room is often an even better illustration of the formless view of things within a limited area, and I am glad it was mentioned. I would even go so far as to assert that the most beautiful groups of cottages are those with a very large amount, if not of "mathematical precision," certainly of uniformity of building material, with occasional interruptions of design only. I am convinced you must have this satisfying uniformity in suburban building and gardening, or the result is in effect simply mere untidiness. The irregular garden treated in the way shown cannot by any stretch of the imagination be described as casual in the sense of being accidental; it is obviously artificial and entirely without charm. "All things that are worth doing are interesting," says Mr. Dillistone. Is it possible to keep any standard of perfection within a space of 100 feet by 35 feet and give distinction to, say, *a lawn, a shrubbery, a herbaceous border, a rock garden, a glade,* not to speak of a pergola and other features? In cramming all these into such a space you are consecrating wantonness of mind and eye. I am convinced we are suffering from an excess of uneducated individuality in all departments, and for most of us a worthy formula is to be recommended. Mr. Dillistone quotes Ruskin (I admire his temerity), but am reminded of the delightful suburb in which the latter lived. Even his words might fail him could he return and visit the locality of Denmark Hill again.—P. MORLEY HORDER.

The Spraying of Fruit Trees.—My experience of fruit trees in various soils proves that if the trees are not sprayed, their branches will become coated over with moss and, later, with lichen, which no amount of summer sun and showers will remove. Surely trees so coated in their bark cannot be as healthy as those with clean branches! I do not think that even a second thought is necessary as to the welfare of trees free from moss as against those smothered with it. Caustic washes in careful hands are valuable; used indiscriminately they can do much harm. I have seen much injury by their use, and I have more often seen the opposite. If trees are sprayed in alternate years with pure lime at the rate of ¾lb. or even 1lb. per gallon of water early in April they will be kept free from moss and may ward off attacks of aphis, which is to my mind the worst of all pests. The lime that misses the branches and which falls on the soil is beneficial to the land, especially where lime does not abound naturally. If pure hard Buxton lime is used and properly prepared, there need be no difficulty in applying it either to old, tall, young, or dwarf trees.—E. M.

—— Facts cannot be discourteous, and as Mr. Engleheart throws down a challenge to show any real benefits accruing from spraying, I have pleasure in giving only a very few, taken absolutely at random and without the slightest selection. U.S.A. Experimental Station, Mass., Bulletin 123: "Winter spraying is strongly recommended as a fungicide for scab and canker, and for shot hole fungus." U.S.A. Experimental Station, Illinois, Bulletin 106.—Relative merits of liquid spraying *v.* dusting: "The foliage of the Apple trees to which dust was applied suffered in the same manner and to the same extent as the trees which were not treated, while those that had been sprayed with liquid did not suffer from the attacks of fungi, but remained green and healthy throughout the season." U.S.A. Experimental Station, New Jersey, Bulletin 194.—It is pointed out that spraying is no longer an experiment, but has become part of the ordinary routine of the fruit-grower. It is further remarked that the beneficial results from spraying are cumulative; they show in succeeding years the trees have good clean foliage and form better fruit-buds. The *Agricultural Gazette*, New South Wales, in 1915, referring to pests of fruit trees, gives numerous examples of the good effects of spraying. *Journal of Economic Entomology*, February, 1910, pages 29–32, *re* spraying: "Good results were obtained against Codlin moth, for, while the control trees gave only 58.9 per cent. of sound Apples, the sprayed trees gave 93.6 per cent. *La Pomologie Francaise* recommends spraying for Pear leaf mite. Professor A. B. Cordingley, in the Oregon Report of the U.S.A. Board of Agriculture, says "spraying is absolutely essential for the good management of fruit orchards." Extract from Report by Professor H. M. Lefroy, M.A., F.Z.S., Entomologist to the Royal Horticultural Society: "In Wisley Gardens Peach trees were sprayed with the object of combating the well-known leaf-curl disease, which had become excessively bad. One half of one particular tree was sprayed and the other left unsprayed. On the unsprayed half 230 of the leaves were badly affected; on the sprayed half every leaf was perfectly healthy." U.S.A. Experimental Station, Cornell University of Nebraska, Press Bulletin: Spraying against Pear scab. Controls gave 100 per cent. infected trees. Spraying reduced infection to 11.7 per cent. In another instance infection was reduced from 85 per cent. to 4.5 per cent., and also increased the quantity of good fruit by sixteen times. I could go on multiplying instances of actual results from spraying *ad infinitum*, but I have not the slightest wish to budge Mr. Engleheart from the even tenor of his ways, so my remarks are made only to justify my position with readers of THE GARDEN.—J. L. GIBSON.

Square Stems.—"Hurstcot," in THE GARDEN for December 30, page 624, says that your readers "crave knowledge as to the true nature of things." He is right, and I have been disappointed at seeing no further contributions "up to the spirituality of plants." May I venture to ask if he can favour us with any information about *square stems*, chiefly of Winter Jessamine? The character of a plant is largely indicated by the stem. True weeds have often coarse, stubborn stems or utterl flaccid ones either stubborn or empty in characte Does the square stem of the Jessamine indica a state of adversity *nobly borne?*—L. A. LOUDE *London House, South Woodford.*

Some Seasonable Remarks on Vegetables No in General Use.—I am glad to see a contribut to THE GARDEN recommending Nettle tops, no just ready to use as a Spinach (leaving a fe *please*, for the Peacock butterfly to lay her eg on). Dandelion, sown thickly and cut and use like Mustard and Cress, is very good, and so a the young centre leaves of old roots if empt flower-pots are now placed over the plants t blanch them. Sorrel leaves (either garden wild) cooked and rubbed through a sieve mak a good substitute for Apple sauce just no Another really excellent vegetable will soon ready to cut, and I should think it might be wort while for some of our North Country frien to send it to market; I allude to Bracken top The most tender and thickest of these, cut whe about 7 inches high and tied up like Asparag in bundles of fifty and a hundred, ought to fi a good sale if directions were given that all the to need is to be placed for an hour or two in co water which has a little common washing so dissolved in it. This removes any slight bitte ness from the Bracken, which then should rinsed in plain water and cooked and serv just like Asparagus.—ANNE AMATEUR.

Bringing the Subsoil to the Surface.—In editorial in the issue of March 10, reference made to Mr. Edwin Beckett's advice (page 8 when trenching of bringing the subsoil to t surface, together with the surmise that "no dou Mr. Beckett will refer to this subject in his lectu on vegetables at the Royal Horticultural Society meeting on March 13." Mr. Beckett did s but as another lecture was timed to follow immed ately, no opportunity was afforded for discussi on any of the many important points raised. Th in itself was a fundamental error, since far m of a useful, informative nature is often fort coming by question and answer than from t lecture itself. Had discussion been possible, wealth of valuable cultural hints might have be obtained from out of the vast store of Mr. Becket long practical experience. All this was lost the meeting, albeit there were many pres hungering and thirsting for the details essent to complete success, who had to be content w the brief reply to an interjected enquiry. I my part I had intended to endorse Mr. Becket view about bringing the subsoil to the surfa It was a practice in which my father firmly believ and many a time have I assisted him as a b Hence it was refreshing at a time when the major are recommending that the subsoil should kept below, that Mr. Beckett—a top-sawyer his profession, as his deeds amply testify—sho not merely emphatically advise the reve but afford proof of its value to the crop. T many people dread seeing a piece of bad-colou soil on the surface is well known. Yet that the only position where it is amenable to im diate treatment; where any existing acid may soon be corrected, or the all-powerful amel rating influences of rain, wind, air and frost h a chance of playing their part. Moreover, is the shortest cut to securing a maximum de of fertile soil, the thing that the majority of al ment gardens are lacking in. Trenched t fullest depth, with the subsoil brought to surface and properly treated, their increa

yield would be surprising; not a few almost doubled. In Surrey alone last year there were 10,000 of these allotments, and to double their output should be the aim of every holder. To-day the number is enormously increased; incidentally, the opportunities for production. Shortage of crop on many an allotment is due to winter neglect of the soil, and soils that are left uncultivated from lifting to planting-time, as many are, cannot possibly produce good results.—E. H. JENKINS.

Outdoor Tomatoes.—I am rather surprised that Mr. F. R. Castle has not included Holmes' Ideal in his list of the best varieties of outdoor Tomatoes. I have always found this to be one of the best, and when grown alongside most of the other varieties recommended for outdoors, both here in Wales and in Essex it has proved the most satisfactory. The type of fruit and the truss is somewhat like Sunrise, but it is a much heavier cropper. I should be interested to read the experiences of others with Holmes' Ideal, as I rarely hear of it being grown, and find it listed in but few seed catalogues. I have a few plants raised this year from a cross between Sunrise and Ideal, hoping to get a variety even better than the two excellent parents. Mr. Castle has done well to mention thoroughly the preparation of the plants for outdoor work, as it is most important. I often wonder what is the ultimate fate of the plants one sees on draughty railway stations awaiting delivery. These are usually overcrowded in a very shallow box, and have been drawn up with heat. Surely it is this class of plant which damps the ardour of many amateurs for outdoor Tomatoes. I might add that I get the best stock of seeds from Messrs. Sydenham of Birmingham.—A. D. TURNER, N.D.H.

Different Forms of Digging. In your issue of March 3, page 78, you give directions for bastard trenching, which, to my mind, is double digging. There seems considerable confusion about the different forms of digging, and it would be interesting to have some views on this subject. I recognise four methods: (*a*) digging, (*b*) double digging, (*c*) trenching, (*d*) bastard trenching. (*a*) The first we should all agree over. (*b*) Double digging involves keeping a wider space, often, say, 2 feet, and when the first spit has been thrown forward, the exposed under spit is broken up but left *in situ*. (*c*) Trenching moves two spits, the second one being thrown on the first, and the exposed third spit is broken before proceeding. This method is only good for very deep soils, as it brings the second layer (often valueless) over the fertile top spit. (*d*) Bastard trenching moves two spits and breaks the third, but leaves all the layers in their original respective positions. For this two trenches are kept open to fill one. Into the emptied trench is pitched the second spit of its neighbour, and the top spit of the one beyond completes it. This makes first-class cultivation, giving deep aeration without burial of the precious surface soil. It is hard work, as with 2-feet trenches the top spit has to be thrown forward 4 feet. Now, what have other diggers to say to this?—M. AGAR.

Woolly Aphis.—Just before the war broke out I was told by a friend that if you grew Nasturtiums at the foot of Apple trees they would kill the American blight, a recipe given my friend by a large fruit-grower of the Evesham Vale. In 1915 I tried this, and the trees showed a marked improvement. I did the same in 1916, with a further beneficial result, the more marked in the latter year, as the Nasturtiums were left to seed and die in the ground, thereby proving that the woolly aphis harbours itself in the ground and roots of the Apple. I suppose it does not like the taste of the Nasturtium. I shall persevere with this treatment, but I should be much more encouraged if I could hear of some of your readers having tried it successfully.—HENRY HOWARD (Colonel), *St. Asaph*.

The Illustration of Ornithogalum lacteum.—In your issue of February 17 the writer was pleased to notice the picture of the above plant and thus to learn its specific name. We find, through the aid of the "British Flora," that others of its genera have long been naturalised in England. I also possess a few specimens sent by a friend who was in Cape Town during the South African War, and owing to their flowers being of a persistent character, they remain perfect in mount. As with many plants in the Order Liliaceæ, the Ornithogalum is a bulbous plant, bearing long, narrow leaves from 6 inches to 12 inches long, similar in character to those of a well-grown Hyacinth. Arising from a series of glaucous, radical leaves spring one or more racemous spikes of white, spreading flowers, centred with dark-coloured reproductive organs, lending a most attractive appearance to its worthy character, which only requires to be better known to other collectors of bulbous plants. According to our British floras there are several species composing the genus Ornithogalum, which is said to be, or has been, plentiful in certain woods and plantations in parts of the South of England. As possibly such plants have been naturalised in this country, perhaps the species illustrated in THE GARDEN of February 17 could also be grown in suitable habitats, to the pleasure of all lovers of horticulture.—J. C. NEWTON, *Ashton-under-Lyne*.

TOMATO HOLMES' IDEAL IN A WELSH GARDEN.

SUGAR BEET EXPERIMENTS

EXPERIMENTS in the growing of Sugar Beet have been carried on in different parts of this country for a number of years, and so far as results have been ascertained, they prove that sugar can be produced on a commercial basis from the Sugar Beet. The industry might have been established in England by now had it not been for the unwillingness of the Government to interfere with the existing regulations as to the importation of foreign sugar. The initial capital required, both for the growing of the crops and extracting the sugar, is very great. Therefore no further steps were taken to set up the industry, owing to the discouragement to enterprise caused by these two difficulties. A great deal of work and expense is entailed in the cultivation of the Sugar Beet, which requires a moist loam. Good drainage, deep digging or ploughing, and thorough cultivation are absolutely essential. Difficulty is experienced in raising the roots from heavy land and in cleaning them, as they grow chiefly under the soil. On the Continent machines are used for this purpose. In this country the work is done by hand with the aid of forks.

There is no way of extracting the sugar except by the proper method, and the processes are many. The Beetroot is useless for sweetening purposes, owing to the large amount of pulp. It is of no use, either, for jam making without the addition of sugar, for the same reason. When the roots reach the factory they are first washed and sliced. The pulp then passes into cylinders and the sugar content is extracted in liquid form under pressure of tepid water. Two per cent. of lime is added to rid the liquor of organic impurities, and carbonic acid gas is pumped in, by which the lime is precipitated. The liming process is repeated until all the organic impurities have been removed. Subsequently the liquor is treated with a sulphurous acid (SO_2) to remove the sulphide of lime that has by this time been formed. Several filtration processes follow, and the sugar is crystallised, separated, and washed ready for use.

These are only a few of the details involved in the manufacture of Beet Sugar, but sufficient to show the matter is not a simple one.

Droitwich. L. M. MARSHALL.

IN my opinion it would be a great mistake for small-holders to attempt to grow Sugar Beet for the purpose of sweetening or jam making. Sugar Beet cannot be reduced to a pulp by ordinary methods; it refuses to break up after seven to eight hours' constant boiling. The liquid in which it has been boiled for the above period has a sweet but not altogether pleasant flavour. I have had samples dried and then ground down, but this does not get rid of the fibre and does not produce a pulp on soaking equal to ordinary Mangels, which can be used in some classes of preserve. G. P. B.

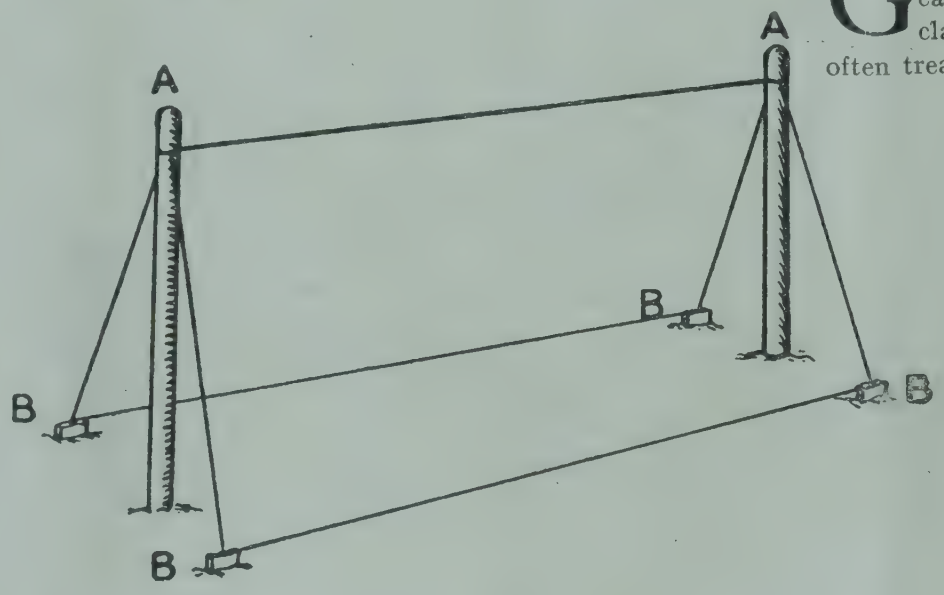
DOES IT PAY TO STAKE RUNNER BEANS?

BY EDWIN BECKETT, V.M.H.

THIS is a question often asked by the cultivator. Well may it occur this year, when there is every likelihood of a great shortage of stakes; but there is no doubt in my mind that wherever stakes can be obtained they should be used. For those who are inclined to doubt the usefulness of staking, I would suggest they should make a small experiment. Let them grow the same variety of Bean under the two conditions, staked and unstaked, and watch the results. They will then realise what a far larger and finer crop they will gather from the staked vines than from the others. The Bean revels in its upward climb, and the better its opportunity the more it thrives.

One other point on Bean-growing: be sure to select good modern varieties and get the best-grown seed from a reliable firm, and in this way you will vastly increase the yield, for there is as much difference between seed Beans as the Poles are apart. For those who are unable to obtain stakes, the device shown in the illustration will serve as a substitute.

Get the wires taut and run strings from A A to B B, where the Bean plants are growing. It is advisable to prepare this device prior to sowing seeds, and if the rows are long, support top wires by straining poles or similar device.



A, *Stout poles* 10 *feet to* 14 *feet high;* B, *Four short posts well set in ground and about* 6 *inches high. Wires from* A *to* A, A *to* B, *and* B *to* B.

TO SAVE POTATOES

BY GERTRUDE JEKYLL.

NOW that we are being urged to decrease the consumption of Potatoes in order to prolong the supply available for poorer folk, it is our plain duty to consider what may best be used in middle and better class households in their place. Foremost will come the Parsnip. There are many people who say they do not like Parsnips or who will only tolerate them with boiled salt meat or salt fish. But with the abundance of Potatoes that we have had hitherto there has been but little incentive to their better use in more carefully considered ways. Among these, one of the best and simplest is first to boil the Parsnips; they take three-quarters of an hour—perhaps an hour if very large. They are then sliced lengthwise and cut into square sectioned fingers; a good general size is 1½ inches long by three-eighths of an inch the two other ways. On a plate is made a dry mixture of flour, with white pepper and salt and spiced herbs. The pieces are rolled about in this so that all their sides are coated. The actual size and shape of the pieces does not much matter, but it is obvious that the smaller they are the larger is the proportion of the nicely flavoured coated surface. They are then fried—or more properly speaking, *sauté*—in butter or margarine till they are lightly browned all over, and have become refined and savoury morsels such as are hardly recognisable as our old friend the Parsnip. This way can be varied by covering the fingers or chips with a very thin batter of flour and milk, the batter being flavoured in the same manner.

Other winter root vegetables, Jerusalem Artichokes and Salsify, can be used in exactly the same ways. A pleasant variant from the more usual ways of cooking Salsify is to boil it for half an hour, drain, breadcrumb and fry, and the moment before serving to sprinkle with salt and Lemon juice.

Another vegetable that we are using in place of Potatoes is the Swede. There is a refined, small kind, seed of which is sold for garden culture, but not having grown this we are using field Swedes; they are larger and coarser, but by no means to be despised. They are good in slices with a nice white sauce, or cooked by any of the methods mentioned for Parsnips. The excellence of thoroughly well prepared mashed Turnip—a good white Turnip—is not enough known or appreciated. The Turnips should be boiled in salted water and passed through a sieve; from its watery nature it comes through as a wettish purée. This must then be got as dry as possible and receive a good flavouring of salt and black pepper, and be finally mixed with a little thick cream. It might be expected that the same treatment would do well in the case of Swedes, but the Swede has not the distinctive flavour of the Turnip, for the very good reason that a Swede is not a Turnip at all, but a Cabbage. [The Turnip is also a Cabbage.—ED.]

It is hardly necessary to remind readers of the excellence of the thick vegetable soups, such as dried Pea, Lentil, Carrot, Turnip, Jerusalem Artichoke and Onion; but, as we are also reducing the consumption of meat, it may be well to give a reminder of the goodness of the true French vegetable julienne. It is made by first frizzling a chopped Onion in two ounces of butter—it must not be at all burnt—then adding Carrot, Turnip and Celery, all chopped small, and frying all together for half an hour, when one pint of water is added and the cooking is continued till all the vegetables are completely softened. When there is Lettuce or Sorrel, a portion of each is shredded and cooked with the rest. The flavour of Celery is important, but the crop is generally exhausted by the end of February, and it does not come on again till it is nearly winter. But there is a kind called Soup Celery which is grown on purpose, and is in use when the main supply is not in season.

Rice can be made to take the place of Potatoes in many ways, and we have already borrowed, to our great advantage, the methods of cooking of the Eastern and Southern countries from which we import it, and where it forms so large a proportion of the sustenance of the native peoples. Thus we have the curry and kedgeree of India, the risotto of Italy, and the pilaf of the Turks. Risotto and pilaf are variants of the same thing, the chief difference being that risotto is cooked in a stronger meat stock and is more highly flavoured. An adaptation of pilaf, such as any handy cook can make, should in any case be more often on an English table, made in some such way as the following: Cook five ounces or six ounces of well-washed Rice for five minutes in boiling water, thoroughly drain, and put it in a casserole with an ounce of butter and pepper and salt; add half a pint of light stock or strained vegetable julienne, and cook for another twenty minutes. Any small pieces of meat or shredded chicken or chicken liver may be added, but it is quite good alone. If more flavour is wanted, a piece of chopped Onion can be cooked in the butter for ten minutes before the Rice is put in the casserole.

GARDEN TOOLS

GARDEN tools deserve, and pay for, proper care and attention as much as any other class of tool, and yet how badly they are often treated. How often one sees spades, hoes and rakes left about in the garden until required again! Anyone who treats his garden implements in this way never can *enjoy* using them. He may do the work, but never with any pleasure. To work smoothly and easily, spades, hoes, &c., must be kept clean and bright. It really requires very little trouble to keep them so if one only makes a fixed habit of cleaning them before putting them away. My own practice is to clean spade and hoe with a wisp of hay or anything of that sort, and then rub them over with a bit of oily rag which is kept in a box near where they are hung up. It takes but a minute to do, and when one comes again for the tool it is clean and bright, ready for immediate use. Last autumn I had a gang of women sent from the fruit tree nursery to hoe my Daffodil-beds. When I went to see how they were getting on, I found the beds looking as if a lot of fowls had been let loose, while half the weeds were buried instead of lying on the top of the soil. I thought at first it was the fault of the workers—who had not had much experience—but on looking at the hoes the cause of the trouble was soon made clear. All the hoes were covered with rust, and some even had soil sticking to the blades from the last time they had been in use. When the hoes were cleaned with emery paper and oil, the work went on as it should, the weeds were no longer buried, and the beds looked as if they had been hoed—not scratched by hens! If a gardener tried first a dirty tool, then a clean one, I think he would never neglect his spade or hoe again. There is a real pleasure in using the one; none in using the other. After buying a new garden tool with shaft, such as hoe, rake or spade, it is well worth while to rub down the shaft with glass-paper and then well rub in a little linseed oil. It makes the new shaft feel like an old one, and the oil keeps out the wet and greatly prolongs the life of the wood.

Garden tools are much better hung up on nails after use than put away in a corner of the tool shed. First, they are more easily found; secondly, they are less likely to rust; thirdly, those with long shafts are kept straight instead of getting warped, as may happen if left leaning in a corner.

Spades.—In our nurseries we have tried many makes of these, but none has stood the test like the one made by Lyndon of Birmingham. The one we favour, the maker calls "Straight thick-topped digging spade No. 1." When new this spade has not a prepossessing appearance. There is no polish and very little "finish" about it, but handle one when a nursery hand has used it for a while and you will say you never used such a spade. One of the secrets of the superiority of this spade over others is the fact that the blade is made up of a steel face, backed with iron. The iron backing wears away faster than the steel facing, and thus always keeps the tool sharp. It is also very strongly made, and it takes a strong man to break one even when working on the stiffest of clay soils.

Hoes.—I think the best form of draw hoe is one having two iron tines, or prongs, turned down and nicked at the ends to receive a blade. It is important to have the prongs turned under just rightly. When properly set, the hoe will cut through the soil and weeds without scraping up a ridge. The prongs should be of good stout iron (especially for working on stiff land), or breakages will be frequent. Personally, I hate a draw hoe, and never use one if a Dutch (or push) hoe will do the work; but there are times when the latter is useless, as in working down land which has been previously dug, or for earthing Potatoes.

J. DUNCAN PEARSON.

The Nurseries, Lowdham, Notts.

(*To be continued.*)

IRIS RETICULATA IN POTS

SOME years ago I attempted to grow Iris reticulata in the open ground, but I had to give it up as a bad job. A neighbour who used to live near Eton, and who could grow it there "like a weed," essayed to do the same on settling down here, but with indifferent success. I conclude this hardy little bulb has, like most humans, its likes and its dislikes. My object in penning these lines is to say that it has settled down now all right as an inhabitant of a cold frame in pots and pans filled with a good light, porous compost, and with the bulbs carefully rationed with nourishing food when the time of their leafage comes round. The beautiful little Cantab, reticulata's charming blood relation, is equally at home under similar conditions. They both look so happy that I am sure they like their treatment; hence I pass on my experience as a "tip" for those who as yet are strangers to their charm. JOSEPH JACOB.

THE SEVERE WINTER:

ITS EFFECT ON SOME OF THE NEWER PLANTS AND SHRUBS

IT is now possible to take stock of the results of the recent severe weather on those shrubs and plants that have been accumulating in the gardens of England during the past fifteen or twenty years and have hitherto experienced no severe test as to their hardiness. I must say at once that it is surprising the really bad effects are so few in number. It may be yet a little early to discern all the harm that has been done, but a careful survey shows that many plants that have been planted somewhat freely will not stand immune during such winters as we have just experienced, and others cannot survive at all.

THE DAINTY IRIS RETICULATA CANTAB.

To appreciate to the full the value of these notes, it is as well to describe the conditions. Most of the subjects I have noticed were growing in open fields exposed to every wind, and particularly to the east wind. An abnormally wet period, during which the ground became saturated and, indeed, almost waterlogged, was followed by a severe frost. Then came about eight days and nights of incessant easterly and north-easterly winds, keen and biting. During this period the thermometer rarely rose above 28° Fahr. This was immediately followed by a period of severe weather, during which the thermometer at ground-level was sometimes 25° below freezing point. It need hardly be pointed out that anything which survived such conditions unscathed can reasonably lay claim to the term "hardy."

For the purpose of comparison it may be profitable to mention a few older and well-known shrubs that have suffered under the same conditions. Of these, the worst appear to be the Escallonias, the best of which are bad. Every leaf on E. macrantha, E. exoniensis, E. Ingramii and E. langleyensis is brown, and in all the later autumn growths are affected. Choisya ternata has suffered severely. All the Ceanothuses have suffered more or less, some rather badly. Rosmarinus and the common officinalis also suffered severely; and even our old friend Hypericum calycinum (the Rose of Sharon) and also Cotoneaster microphylla look sick and miserable.

As it is impossible to mention individually all the many introductions of recent years, I will just touch on the various species that have become most popular, and my mind at once turns to the new Chinese Primulas, especially those collected by Mr. George Forrest during his 1913-16 journey. I shall only mention those that have received the most severe test, and omit those that have been occupying any sort of sheltered position. P. conica is evidently an absolutely safe plant. It has, it is true, the fault, or perhaps in one sense it is a virtue, of making a large number of roots just below the surface of the ground. This is common with nearly all the Chinese Primulas, and in consequence they are inclined to thrust themselves up out of their bed and ask for chilly trouble. The remedy is light but frequent top-dressing, especially in the early spring. P. nutans has borne out every claim Mr. Forrest made for it, and its sturdy little crowns were in the last week of February, full of life and vigour, even though it is planted in much wetter conditions than it really likes. Anyone planting this beautiful Primula should see that the drainage is free, and mix plenty of sand with the soil. P. secundiflora is a safe plant, and P. vincæflora is another; already the big buds of the latter are swelling above the ground. Perhaps, however, the greatest pleasure of all is to be able to record that P. Helodoxa (the Marsh Glory Primrose) is an absolute and unmitigated success. Its huge rosettes of leaves are still green and vigorous, and it gives rich promise of a fine flowering period to come. So far as I have been able to ascertain, not a plant has suffered in the open. The foliage of one or two, out of some hundreds of seedlings, wintering in a cold frame, turned a little dark, but recovered. Evidently this is a plant that is going to do best under the most rigorous conditions. The following extract from a letter from Mr. Forrest makes this proof

of its hardiness the more welcome: "My enthusiasm was somewhat damped when I came to consider the altitude of the area in which the species is localised"—6,000 feet is the altitude at which he discovered it. To-day it has suffered far less than the Cabbages in an adjoining field. Only one of these new Primulas for which a hardy constitution is claimed has shown signs that it is not going to prove of much use in the garden—P. pulchella. I must say we have not given it a very thorough test yet, but it is doubtful if it would survive anything but the mildest of winters. Although the following have not been so severely tried, there appears to be no reason why they should prove other than absolutely hardy—P. membranifolia, P. spicata and P. vittata; and other new plants of Mr. Forrest's collecting that have come through well are Aster staticifolius, Salvia digitaloides and Saxifraga Delavayi.

It is, however, when we come to the shrubs that we find the most pronounced results. In the Berberises, for instance, the evergreen varieties have suffered most, and it seems to be the rule that the larger the leaf the more the frost takes hold of it. This is noticeable in other subjects, too, particularly with the Cotoneasters. Berberis Wilsonæ was a fine plant even in February. Planted high or low, in a damp or dry situation, exposed or sheltered, it has been absolutely untouched either by frost or wind. B. subcaulialata and B. aggregata are equally successful, and among the evergreens B. Sargentiana is unscathed. Others that are safe plants are B. brevipaniculata, B. candidula, B. Gagnepainii and B. verruculosa; while those that do show signs of distress are B. Knightii (foliage only), B. pruinosa (badly), and *all* the stenophylla hybrids, diversifolia, erecta, Irwinii, latifolia and reflexa have caught it more or less severely. Generally speaking, however, this is the effect of the frosty winds rather than of the low temperature. GEORGE DILLISTONE.

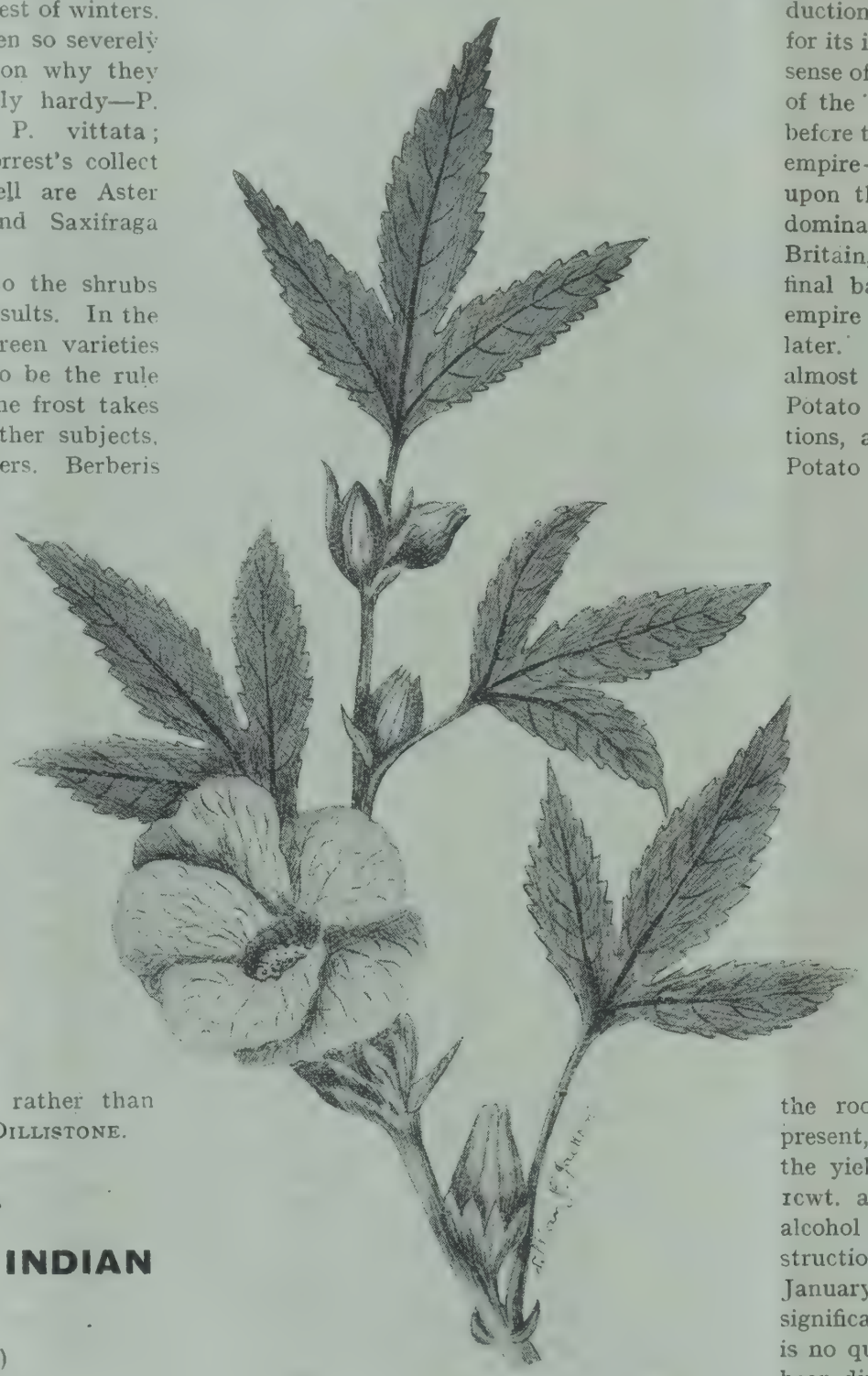
(*To be continued.*)

THE ROSELLE, OR INDIAN SORREL

(HIBISCUS SABDARIFFA.)

FROM time to time we have been reminded in the columns of THE GARDEN of the value of many tropical fruits which occasionally find their way into Covent Garden Market, only to be forgotten as suddenly as they appeared. Conservatism or prejudice against novelties of this kind has prevailed to keep back the supply so long as older and better known fruits are forthcoming in sufficient quantities to meet our wants. In the case of food products, however, few, if any, permanent additions have been made to meet our demands, either by imports from abroad or by cultivation at home. When we consider the origin of many of our most esteemed vegetables, we cannot but think it somewhat remarkable that we have for so many years been content with the Potato as our principal esculent, the wild form of which is a small waxy tuber not larger than a Walnut; or with the various forms of "greens" which cultivation has produced for us from the wild seaside Cabbage of our coasts. What has been effected by cultivation with these plants might well be repeated with others.

Many, of course, are unsuited for cultivation here, but if a demand was created at home for the tinned fruits, such as that of the Pineapple, the list of novelties could well be extended, such, for instance, as the Roselle of India or Red Sorrel of the West Indies (Hibiscus Sabdariffa). The plant is a pretty shrubby annual, and is commonly found in tropical countries. It belongs to the Natural Order Malvaceæ, and is grown principally for the sake of the fleshy calyces and fruits to which they are attached and which have a refreshing, acid taste. In the countries where the plant abounds these are largely used for making into preserves and jellies. A very refreshing drink is also prepared from the fruits. Roselle or Sorrel jam is occasionally seen among collections of Indian chutnies, pickles and preserves. J. R. J.



THE ROSELLE OF INDIA (HIBISCUS SABDARIFFA).

A COLUMN FOR THE CURIOUS

POTATOES AND MATTER-OF-FACT.—We are in times when utility is everywhere demanded; flowers and lawns are giving place to Potatoes. The curtailment of horticulture is only inimical to human good, yet the gardener must march intelligently with the times and understand their wherefore. Popular error ascribes Potato introduction to Raleigh. No precise date can be given for its introduction to Europe. Those with mystic sense of the Potato's destiny realise the importance of the Potato not taking its empire place till just before the era of the first great conflict for universal empire—the French Revolution. Not till close upon that time, 1789, did the Potato become a dominant factor in any of the great empires—Britain, Germany and France—now fighting their final battles of destiny. Spain had it first—an empire which has passed; England got it much later. Gerard figured the Potato in his Herbal, almost a century after it came to Europe. All Potato manias, like other abnormal demonstrations, are the breaking up of ignorance as to Potato ethics. Somebody stumbles into primitive truth about the Potato, and at once demands a fabulous price for the fruit of his knowledge. A pound of Potatoes, normally worth about a penny, is thus inflated to a sovereign and upwards. It is the function of THE GARDEN to reduce to economic order such erratic knowledge. Once the mind of the Potato-grower, whoever he or she is, has seized the fact that in cutting the Potato for planting he is performing a barbarity which the evolution of the ages will surely avenge, the first principle of truth about the Potato is gained. Meanwhile, to meet the necessity of the day, let someone subject the Potato to as careful cultivation as, say, the Cucumber, and give the world the result. Limit the shoots and stake them, select soil and manure, and top-dress at frequent intervals as the root spongioles show on the surface. At present, under the usual barbarous conditions, the yield is not more, on an average, than about 1cwt. a rod, which gives about a gallon of the alcohol indispensable to the munition of destruction. "Anne Amateur" in the issue of January 27 has a note about Potatoes, with a significance quite unthought of by her. There is no question but that a vegetable which cannot bear direct contact with the solar rays without becoming almost at once deadly and obnoxious is unfit for man if his higher spirituality is to be developed. This is proved historically. [Surely our correspondent has overlooked the fact that Celery, Seakale, Leeks and many other delightful and nutritious vegetables would be of little value if fully exposed to the sun's rays.—ED.] Living on Potatoes as the chief diet always has been observed as involving mental inferiority. [Might not the same be said of Rice or any other *one* kind of food that formed a *chief* diet?—ED.] In another age, no doubt humanity will live on food matured by the direct solar rays—Wheat and Grapes, for instance. Mr. Jacob has superior opportunities for investigation of questions antiquarian, such as the reference to Stephen Blake. We thus are always glad to read these notes connecting with the past.—HURSTCOT.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Salsify should be treated on similar lines to Parsnips, grown on deeply trenched soil, as the roots run deep and should have no obstruction, as the one straight tap-root is all that is required. This crop follows Celery very well. Where the land is stiff and not deeply worked, holes a foot apart and 2 feet deep should be made with an iron bar, filling the holes with fine light soil and sowing two seeds in each hole at once.

Onions should be sown at once if the land is in a fit state to receive the seed without kneading. Draw shallow drills 14 inches apart, sow thinly, and do not thin the plants.

Celery.—Plants from seed sown in February should now be pricked out in boxes or in a cold frame over a layer of leaves or short manure, whence they will lift ready for planting with a good ball of soil and prevent any check when planting finally.

Broad Beans sown in boxes in February should now be planted out in double rows in a sheltered position. If they are allowed to remain too long in the boxes they receive a check when planted. The protection from evergreen boughs thrust in the soil on the east side of the rows after planting will be an advantage. Make sowings in the open of both Longpod and Windsor varieties. If the soil is heavy, a small quantity of a light compost strewn at the base of the row will aid germination and prevent rotting of the seed, should the weather remain continuously wet.

Asparagus.—Where a new plantation is required, no time should be lost in preparing the site. Deeply trenched, heavily manured soil in the autumn should by the middle of April be in good condition for receiving the roots, which should be two years old if grown in the open. The best type of root is that obtained by sowing two seeds in a 3-inch pot early in April, growing the plants—one in a pot—plunged in ashes through the summer and planted in the prepared bed the following April.

Globe Artichokes.—Where they were but lightly protected, these appear to have suffered very much from the recent severe frost. In that case sow seed in gentle warmth and grow sturdy plants on in pots, planting them out 4 feet apart in well-prepared soil. Where plants were not killed by the frost and an extended plantation is required, take offsets and plant in a compost of light, rich soil to ensure a quick start into growth. In the ordinary way remove protecting material from the plants as well as decayed leaves, lightly fork over the soil about the plants, and add manure freely.

Jerusalem Artichokes have come prominently into notice of late; in the future their cultivation will no doubt be largely extended. The silver-skinned variety is much superior to the purple-skinned form. Plant 15 inches apart in rich soil in rows 2 feet asunder.

Vegetables Under Glass.

Broad Beans growing in boxes, now 6 inches high, should be carefully watered and have plenty of air to keep them stocky in growth; too much water induces a pale, sickly appearance.

Egg Plants now 3 inches high should be shifted into larger pots as required. A shelf close to the glass in a night temperature of 55° will bring them on fast enough.

Vegetable Marrows now coming into rough leaf should be shifted into 4-inch pots and have a position on a shelf close to the glass in a temperature of 50°.

Fruit Under Glass.

Peaches and Nectarines now with fruit about the size of Peas should have a night temperature of 50°. Keep a sharp look-out for green fly, fumigating the house at the first sign of this pest. Gradually disbud the shoots, removing all those growing on the under side of the branches, and thin freely. Far too many growths are left as a rule.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Turnips.—Sowings of early varieties may now be made with safety, Early Milan and Strap Leaf being excellent sorts for early use.

Frame Carrots.—These should now be thinned to about 2 inches apart in the drills, afterwards giving a good watering to settle the soil about the roots. Ventilate freely in good weather, otherwise too much top growth will result.

Spinach.—Successional sowings should now be attended to; also make a sowing of Spinach Beet, as this often fills a blank if the ordinary Spinach should run to seed owing to dry weather or other causes. For a small garden this Perpetual Spinach is most accommodating, as fine fresh leaves may be pulled throughout the season.

Asparagus-Beds.—The beds should now be carefully pricked over and a liberal dressing of farmyard manure given, also add a dusting of soot. Point the alleys between the beds anew.

Fruit Under Glass.

Early Vines.—When in flower the atmosphere of the house should be kept fairly dry to ensure a good set, and at midday give the rods a slight shake so that the pollen may be dispersed. The bunches may be lightly touched with a camel-hair brush for the purpose of fertilising shy-setting varieties such as Madresfield Court, Muscat Hamburgh and Cannon Hall Muscat. When the bunches are set, a dusting of artificial manure may be given the border and watered well in.

Late Vines.—The starting of the late vinery can now be no longer delayed, as the buds are swelling naturally. In well-ordered establishments the borders will have been top-dressed and everything put in order for starting, so that all that is required will be the soaking of the border with tepid water before finally closing down the house.

Melons.—Leading growths should be stopped when they are about 2 feet up the trellis, also thin out lateral growths and so prevent overcrowding. Stop each lateral a leaf or two beyond its first female blossom, which fertilise. During the flowering period preserve a comparatively dry and buoyant atmosphere, and when three or four fruits upon each plant are properly set and swelling freely, remove all later flowers as they appear. Ventilate freely during favourable weather, but guard against fluctuating temperatures.

Early Tomatoes.—Pollinate the flowers as they open, and, as the fruits begin to swell, a rich top-dressing should be given and waterings with stimulants afforded also at a later date. Rub off all side shoots, leaving the leader intact until the limits of the wires are reached.

The Flower Garden.

Pruning Roses.—The pruning of the Hybrid Teas and Hybrid Perpetuals may now be done with safety. Remove all shoots that are either too old or too weak to produce a reasonable quantity of blossom, and keep the centre of the plant open so that light and air may circulate freely about the shoots that remain. Many varieties require different treatment according to their habit and the purpose for which they are grown. The weaker varieties need closer pruning to encourage the production of new and stronger shoots. The pruning of Teas and Chinas is delayed with us until the second week of April to escape late frosts.

Planting Shrubs.—Owing to the severe frosts experienced in the North this winter, many deaths have occurred in our shrubberies, especially among the more tender sorts. Carpenterias, Cistuses, Azaras, Ceanothuses, Clerodendrons and many others have suffered severe injury, the full extent of which will not be known for some time yet. Several fine plants of Escallonia langleyensis were also cut to the ground by the prolonged frost. This will of necessity cause replanting in many places, and no time should be lost in having it done, although many shrubs transplant better during April and May than at any other season, Evergreen Oaks and Hollies especially being among this class. After transplanting, copious waterings should be given if the weather is dry.

James McGran.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

BLACK AND OTHER BIRDS

By "Anne Amateur."

SOME readers of The Garden seemed interested in my blackbird last autumn. He *would* be pleased if he knew, for he is more than commonly conceited, even for a blackbird. I suppose it is because blackbirds are the earliest risers among all the birds. Very early risers *are* given that way! Perhaps bird-lovers may like to hear about some more of my bird neighbours.

I am just now cultivating a closer acquaintance with them, for at the beginning of the late spell of frost I had a garden table set against my window, and on it I provide "free meals." (Mrs. "Busy Bee" remonstrated with me for "spending quite a shilling a week" on entertaining them; but I bade her think how they will destroy the caterpillars, &c., in the garden by and by.)

The first comer was a hen robin, which came to early breakfast at daybreak (the kitten had killed the cock, and has been banished from the south side of the bungalow ever since). Two other robins came at different times at first—but, one morning, all three arrived at once! and och, begorrah! and bedad! *wasn't* there a raal Oirish shindy entoirely—which has continued ever since. Sparrows hastily snatch bits between whiles, always the largest, regardless of quality. (Sparrows have *no* "manners.") The hen robin comes again to afternoon tea and late dinner.

The next comer was a beautiful tiny blue tit. The hen robin rules the table (except when the song-thrush comes) and she drives away all the other birds. I find all the birds seem to have their "regular meal-times," and it is rather unfortunate for the blue tit that *his* are the same as Widow Robin's; but he is awfully artful, and it is amusing to see how he dodges in the moment her back is turned. He, and the long-tailed tit from the wood (which wears a black velvet cap and necktie), have also a Cocoanut hung up, on which they perform most fascinating acrobatic feats.

Then there come finches galore! I do not know them all. The chaffinch waddles about the table with fussy self-importance and self-consciousness (an underbred bird). The greenfinch seems disliked by all the other birds, which drive it away at once. The goldfinch is a great joy, and, like most great joys, pays such rare fleeting visits that one hardly knows it is there before it is gone again. The missel-thrush has beautiful, clean-cut curves like a sailing boat, and with his strong, rudder-like tail reminds me of the fishing boats on Brighton Beach. All the birds, except the blue tit, are afraid of him, and it is droll to see the two feeding together. The bullfinch is the only bird I ban. When *he* appears, I call to the gardener, "Johnny, get your gun, get your gun." The song-thrush did not venture on the table for some days, but hopped about a few yards away with the blackbird, which despite his brag, is a great coward. Even a sparrow can bully *him*. But now the song-thrush *has* come he is lord of them all—a real aristocrat. He allows all the little birds to come, unless they squabble; then he drives them away directly.

One day all the finches failed to appear. I found on enquiry they had gone to assist the War Office officials, who were removing a hay stack near by. They have now returned to my table.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

PHLOX DIVARICATA (*C. E. A.*).—The best way to sustain vigour and freedom of flowering in this plant is by periodical propagation, *i.e.*, by cuttings inserted any time during the early summer months. The typical kind is not usually a vigorous subject, and is surpassed in this respect, also in colour and freedom of flowering, by that known as Laphami, which, however, also pays for periodical increase in the same way. In very light soils a little cow-manure will be found helpful, as all these Phloxes prefer a cool rooting medium. Slugs, too, are particularly fond of them and often play havoc with the plants in winter-time. The old plants of Santolina may be pruned back at any time now. If done soon, the new growth will have an opportunity of maturing during the season. As they break quite well from the base, you need not hesitate about pruning them hard back. We are pleased you find the garden plans of interest.

TREES AND SHRUBS.

INJURY TO IVY LEAVES (*A. H. R.*).—We cannot say exactly what the pest is which is attacking your Ivy, but from the symptoms we have no hesitation in saying it is a biting pest and calls for the use of a stomach poison. We think lead arsenate, used at the rate of 1lb. to 15 gallons of water and sprayed on with a fine nozzled syringe, would be the best thing to use. The time for clipping the Laurel will soon arrive, and it may be unnecessary to spray now, reserving that treatment in case the trouble recurs.

CREEPERS FOR A GARDEN ARCH (*Miss Snook*).—Good creepers suitable for clothing your rustic garden arch are: Jasminum officinale, flowers white, fragrant, summer; Lonicera Halleana, cream, early summer; Clematis montana var. rubens, reddish, May; Clematis Flammula, white, fragrant, August; Forsythia suspensa, yellow, March; Vitis Coignetiæ, handsome leaves which colour in autumn. All grow rapidly. Good standard Roses are: Bessie Brown, Caroline Testout, Clara Watson, Duchess of Wellington, Elizabeth Barnes, Edward Mawley, George Dickson, General Macarthur, Grace Darling, Dean Hole, Hector Mackenzie, Gloire de Dijon, J. B. Clark, Killarney, Lady Ashtown, Lady Pirrie, Lieutenant Chauré, Mabel Drew, Mme. Edmond Rostand, Mrs. David Baillie and Mrs. W. J. Grant. The climbers and Roses can be obtained from Messrs. D. Prior and Son, The Nurseries, Colchester. We regret to say that we do not know of a method of making jam and marmalade without sugar.

NAME OF PLANT.—*Boris.*—Mesembryanthemum falciforme, probably, but cannot be certain without seeing flowers.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held on March 27 was full of interest and variety. Alpines in pans from the Society's Gardens at Wisley were a great attraction; Tulips in bowls of fibre from Messrs. R. H. Bath, Wisbech, were equally good. For the rest, alpines were freely shown; Carnations were excellent; while Orchids and the earliest pot-grown Daffodils each contributed their quota to a goodly gathering.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. W. J. Bean, J. Hudson, R. C. Notcutt, W. B. Cranfield, G. Reuthe, J. Heal, E. F. Hazelton, W. Howe, T. Stevenson, C. E. Pearson, J. F. McLeod, J. Dickson, C. Dixon, R. Hooper Pearson, Clarence Elliott, W. P. Thomson, E. H. Jenkins, W. G. Baker and Charles E. Shea.

An exhibit of alpines in pans from the Society's Gardens at Wisley was one of the chief attractions of the show, demonstrating in the most complete manner how to grow and show these deservedly popular flowers. The majority were shown in pans 12 inches or so across, not a few of them so abundantly flowered as to completely cover the tufts with their blossoms. The more telling in a really sumptuous lot were the Wisley form of Saxifraga Grisebachii, a vastly superior thing to that usually seen; S. Burseriana Gloria, a sheet of blossom; S. Irvingii, a gem, seen in perfection for the first time; S. oppositifolia splendens; S. Boydii alba; S. Burseriana minor, whose scarlet peduncles and calyces display the solid white flowers to advantage; and Primula Winteri. An ideal exhibit of the most precious of these early flowers of the year.

Mr. G. Reuthe, Keston, showed alpines in considerable variety, Iris reticulata (in pans), Shortia galacifolia, Hepatica triloba lilacina grandiflora, Cyclamen Coum in variety, together with hardy Heaths and others.

Mr. Clarence Elliott, Stevenage, also contributed alpines, Saxifraga Boydii (yellow), S. B. alba, S. apiculata alba and others being nicely shown. Corydalis Allenii (rose, white-spurred flowers) was also noted.

Mr. Elisha J. Hicks, Twyford, again showed a lovely lot of the single crimson Rose Princess Mary, a glorious bit of colour even in the forced state. The creamy yellow Rosa Hugonis and R. Willmottiæ (rose pink flowers) were also on view.

Alpines and forced shrubs were shown by Messrs. W. Cutbush and Sons, Highgate. Iris reticulata, Saxifraga Burseriana major, Daphne Dauphinii and D. japonica were others on view.

Messrs. Allwood Brothers, Hayward's Heath, showed an excellent lot of Carnations, handsome vases of some three dozen sorts being staged. Enchantress Supreme, Mrs. C. F. Raphael, Alice Coomber (new pink), Brilliant (crimson fancy), Triumph, Rosalind (yellow-ground fancy), Aviator (scarlet) and Pink Sensation were among the best.

Messrs. H. Cannell and Sons, Eynsford, Kent, contributed an excellent lot of Zonal Pelargoniums in the cut state. Mrs. Ewing (salmon), Louis Chauvin (deep salmon), Firefly (grand scarlet), Countess of Radnor (cerise), Golden Lion (orange), Mrs. Lawson (rosy pink) and Sir T. Hanbury (crimson) were among the best.

Carnations from Mr. Jenner, Rayleigh, Essex, were very good. White Enchantress, Mary Allwood, Triumph, Empire Day, Satin Rose, Salmon King and Aviator represented these flowers in their highest excellence.

Messrs. J. Cheal and Sons, Crawley, contributed Primulas and forced Rhododendrons; Mr. G. W. Miller, Wisbech, showing choice alpines in boxes, the earlier Saxifrages in variety.

A chief attraction was the forced Tulips in bowls from Messrs. R. H. Bath, Limited, Wisbech, who contributed handsomely of these imposing flowers. St. Simon, Rev. H. Ewbank (heliotrope), Sierrad Van Flora (rose), William Copeland (the finest of them all for this work) and Pride of Haarlem (cerise scarlet) were among the best. Narcissi from the same firm included the fine incomparabilis Flame, Brilliancy, Homespun, Silver Dawn and Marck White (the best white trumpet and of the stature of King Alfred).

Messrs. R. Tucker and Sons, Oxford, showed alpines charmingly. Lovely tufts of Saxifraga Irvingii were crowded with flowers, a like remark applying to S. Burseriana Gloria, S. Obristii, S. marginata, S. Paulinæ and S. Grisebachii, all of which were charming.

Messrs. Stuart Low and Co., Enfield, exhibited Carnations largely, Red Ensign (a lovely light scarlet), Eileen (charming in its deep salmon), Triumph, Aviator, and Philadelphia (cerise pink), with Pink Sensation, being among the best.

Messrs. H. B. May and Sons, Limited, exhibited a table of Ferns and flowering plants, the first named largely predominating. Of these, Pteris Summersii, Asplenium Mayi (very distinct), Davallia Mariesii, Dicksonia squarrosa, Davallia Lorrainii and Pteris Childsii were the chief. Hardy Ferns were also freely shown.

Messrs. Barr and Sons, Covent Garden, showed alpines in variety, chiefly Saxifrages, these including S. Irvingii, S. Burseriana Gloria, S. Mrs. Leng (yellow) and Narcissus cyclamineus. Narcissus Bonaparte and N. Alice Knights were well shown in pots.

Messrs. J. R. Pearson and Sons, Lowdham, Notts, showed Narcissi very well. Vega, Mrs. R. Sydenham, Florence Pearson and Mrs. B. Farmer are all white trumpets of a good type. Heroine (very fine white), Queen of Spain, King Alfred and Mme. de Graaff were also included in a nice group.

ORCHID COMMITTEE.

Present: Sir Jeremiah Colman (chairman), Sir Harry J. Veitch, and Messrs. J. O'Brien, R. A. Rolfe, R. Thwaites, E. R. Ashton, T. Armstrong, A. McBean, J. Cypher, J. Charlesworth, J. E. Shill, H. G. Alexander, W. Cobb, S. W. Flory, W. Bolton, C. H. Curtis, C. J. Lucas, R. Brooman White and W. H. Hatcher.

Messrs. J. Cypher and Sons, Cheltenham, contributed some choice Dendrobiums, D. rubens, D. Apollo grandiflora, D. xanthocentrum and D. nobile nobilior being among them.

Messrs. Armstrong and Brown, Tunbridge Wells, showed Brasso-Cattleya Lady Jellicoe, together with a lovely series of Odontiodas and Odontoglossums, O. Victory, a variety of the latter, being very fine.

Messrs. J. and A. McBean, Cooksbridge, contributed Cymbidium Alexander (rich rose), C. Pauwelsii (creamy yellow and crimson) and C. Gottianum (flesh pink), also Cattleya Brenda, C. Schröderæ and others.

Messrs. Charlesworth and Co., Hayward's Heath, had many good things, notably Lælio-Cattleya Thea, Sophro-Lælio-Cattleya Meuse, Lælio-Cattleya Eurypides (golden), and a variety of Odontiodas with Miltonias. Sophro-Lælio-Cattleya Meuse and Cattleya Enid Silver Queen both gained awards of merit.

Messrs. Sander and Sons, St. Albans, had the lovely Brasso-Lælio-Cattleya Woton var. callistoglossa, a huge flower, coloured pink. Lycaste Skinneri alba, Cattleya Snow Queen, C. Mary Sander (pure white) and Cymbidium Hookerianum were also on view. Brasso-Cattleya Vilmoriniana, palest pink, was very charming.

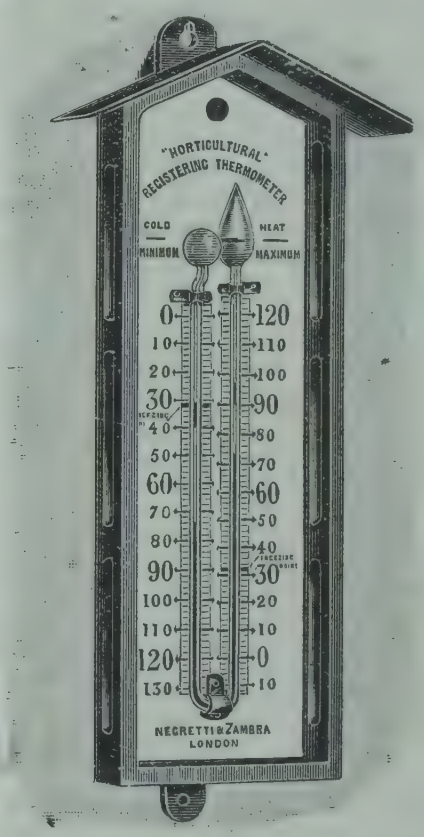
A Midwinter Bouquet: A Correction.—I beg to thank you for finding space for my letter, "A Contrast," in THE GARDEN for March 10. At the same time I wish to point out that an error crept in, owing to the fact that I did not copy correctly off the original MS. It should read (page 85): "Iris stylosa associated in the same bowl with Helleborus niger and a little Iris greenery make a charming midwinter bouquet, especially the variety H. n. altifolius, usually known as maximus, and figured in THE GARDEN for January 2, 1915."—W. D., *Bexhill.*

Daffodil Shows Abandoned.—Mr. Herbert Smith writes to say that the Committee of the Midland Daffodil Society have decided not to hold the Daffodil Show this year. The schedule as printed for 1917 will hold good for 1918, and the officers for 1917 will continue in office for another year. We learn also that the Tewkesbury Daffodil Show has been put off.

TRADE NOTE

A RELIABLE GARDEN THERMOMETER.

THE recent severe frosts have awakened an interest in thermometers. There are many thermometers in existence that behave accurately at ordinary temperatures, but fail completely at the low temperatures which we have experienced this year. A thermometer must be carefully made if it is to be reliable at unusual temperatures, and with this consideration in mind we have every confidence in recommending the "Horticultural" thermometers supplied by Messrs. Negretti and Zambra, 38, Holborn Viaduct, London. Temperatures may be placed in two groups, (*a*) in the air, (*b*) on the grass, *i.e.*, radiation. In the former the thermometer must be at least 4 feet above ground in an exposed position, but protected from rain and sun. A verandah facing north gives about as good an exposure as possible, unless the Standard Meteorological Screen is used. In the case of temperature on the grass, a standard instrument known as a Terrestrial Radiation Thermometer should be placed on a piece of grass perfectly open to the sky. The temperature thus



indicated will be the minimum during the night, at which time if the sky is clear there will be considerable radiation from the surface of the earth with the corresponding lowering of temperature. No rules can be given as to comparison between the minimum air and ground temperatures, but assuming a perfectly clear night and air temperature of, say, 8° of frost, we should expect at least 11° or 12° on the ground. There are always conditions of exposure, surroundings and altitude, which may mean that one spot has a different temperature to another; but this hardly accounts for the great variation recorded in the recent hard weather. For instance, 4° below zero were recently recorded at one station in Surrey, while only 16° of frost were registered at another station in the same county on the same night—a difference of 20°. Considering that the stations are not far apart and that there is comparatively little variation in altitude, this great difference is hard to understand unless the instruments are faulty. Carefully tested thermometers are necessary for recording unusual temperatures.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

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WILLIAM COOK & SONS

ORIGINATORS

OF THE

ORPINGTON FOWLS and DUCKS

are now helping all Smallholders and Poultry Keepers to increase

THE HOME PRODUCTION OF FOOD

by supplying them with

RELIABLE EGGS FOR HATCHING

from the hardiest, healthiest stock in this country which have proved to be excellent layers right through the severe weather experienced during December and January. They have been despatching thousands of Eggs weekly, which have produced large numbers of sturdy chickens, the pullets of which will make layers of at least 200 eggs in each year, while the Cockerels will be killed for food at an early age.

Booked orders having been executed, they can now despatch the following eggs at once :—

WHITE ORPINGTONS
SPECKLED SUSSEX
WHITE LEGHORNS
BLACK LEGHORNS and
HOUDANS

From pure stock of guaranteed 200 to 289 Eggs each in the year
6d. each.

From selected pens of birds of these wonderful laying strains
8d. each.

The stock from these will lay just as well as from the cheaper pens, but be worth more from the sales point of view as the birds will be more perfect in colour.

And are booking orders for supplying in rotation for :

BUFF ORPINGTONS
RHODE ISLAND REDS
SALMON FAVEROLLES
and
WHITE WYANDOTTES

FIRST CROSS.—Faverolle-Sussex, 6d. each.—This is the finest cross for the production of heavy table birds in a short time, while the pullets make excellent layers.

All eggs are despatched on the day they are laid, and **not** less than twelve eggs supplied, and no reduction for large numbers.

Profitable Poultry Keeping is only possible when Eggs are forthcoming, and many who have been keeping fowls with the definite purpose of producing eggs have had reason to be dissatisfied with the returns during the past few months, and now that all food prices are up, it is a serious matter when the fowls give no returns. Mongrels and poorly bred stock can be made profitable, and the returns from pedigree stock greatly increased, provided that the food which will develop their eggs is given, and the mistake made by the majority of food manufacturers is to provide starchy diet which fattens the fowls and prevents egg production. It is as the result of their knowledge possessed as to food values which

WILLIAM COOK & SONS

have prepared their

IDEAL MEAL

and they use nothing but this and oats to feed their many thousands of birds daily This is the meal which is different to all others on the market, as it is non-starchy and non-fattening, and produces eggs in abundance and promotes rosy healthiness in the fowls fed on it. It is now made in two forms :—

(1) **THE ORIGINAL IDEAL**
used in the proportion of one part to several of middlings ; and

(2) **THE COMPLETE IDEAL**
which requires no addition of meals, and is being successfully used as a Dry Mash.

The price of the Ideal Meal in both forms is : Per cwt., **21/-** ; per half-cwt., **11/-** ; per quarter-cwt., **6/-** ; carriage paid in England and Wales ; and **1/-** per cwt. less than these prices for Scotland, Ireland, and the Channel Isles, carriage forward.

For a few fowls a **6/-** bag, or for twenty or more one at **11/-** will prove the value of this food.

Everyone who has fowls which are not laying should—in their own interests—try a bag of **Ideal Meal** without delay, then they will be able to see that they have not before bought THE RIGHT FOOD, although they have paid a good price for it.

Special Notice.—Those who wish to purchase their eggs for hatching from the

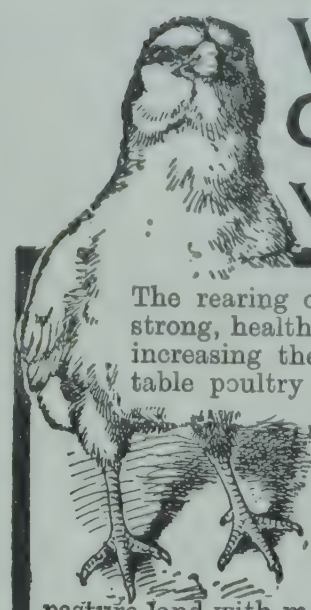
ORIGINATORS

of the Orpingtons and so secure the original and tested layers which are quoted all over the world as Cook's strains ; also the **Ideal Meal, must** address their letters to their ONE ADDRESS IN ENGLAND :—

WILLIAM COOK & SONS,
ST. MARY CRAY, KENT.

Telephone : 7 Cray.

For three penny stamps they will send a set of papers dealing with the whole question of **(1) Incubation ; (2) Rearing ; (3) Feeding ;** and **(4) General Management.** Provided that readers will be good enough to mention "The Garden."



War-time CHICKS are valuable

The rearing of young Chicks into strong, healthy stock suitable for increasing the supply of eggs and table poultry in Great Britain, is of the greatest importance at the present period, and can be undertaken by owners of suburban gardens, small holdings and pasture land with moderate outlay.

A vital question is that of FOOD for the young chicks, but no difficulty need be experienced if Spratt's "Middle Course" be adopted, viz.:—

SPRATT'S

Chicken Meal as the early morning soft feed.

"CHIKKO" the dry feed for the afternoon and evening feed.

FREE.—We will gladly send GRATIS and POST FREE our interesting book "Chicken and Poultry Culture" (published at 6d.), also brochure "The Middle Course," containing expert advice and many valuable hints.

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OF

ORPINGTON.

Practical Expert Advice
on the
Feeding of Poultry.

WILLIAM H. COOK, LTD., have for many months given the above their serious attention, due partly to the fact that many thousands of their customers are asking "How to feed, and what to purchase ?"—especially as their difficulties in obtaining supplies locally are ever increasing. They have now placed on the market TWO of the best and cheapest MEALS ever offered to POULTRY-KEEPERS.

☞ Note the low, inclusive prices, compare the quality, then watch the excellent results obtained.

These two foods have been blended, tried and proved unequalled by THE LARGEST BREEDERS AND LEADING POULTRY EXPERTS IN ENGLAND.

If you want Eggs and Healthy Fowls, feed on these foods, which have been thoroughly tested and proved absolutely reliable.

They will make Poultry-keeping a pleasure, and, being the cheapest on the market, will help you to save money.

No. 1.—"BEATALL" MEAL.

A special Laying Food, containing most highly nutritious ingredients for promoting heavy laying, vigour and health. Two parts of this should be mixed with one or two parts of Ground Oats or Middlings.

No. 2.—"COMPLETE LAYING MEAL."

A well-balanced food, which can be given without the addition of any other Meals, as it is a perfect mixture in itself.

Price (for No. 1 and No. 2), 20/- per cwt. ; 11/- per ½ cwt. ; 6/- per ¼ cwt.

Carriage paid in England and Wales.

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Branch Farm—LE TOUQUET, FRANCE.

PULLETS, laying, 5/- each ; 60/- doz. List, 30 breeds, free. Special offer : Six selected Laying Pullets and Cock, 35/-.—VARNEY, Stratford, Essex.

SMITHS' FAMOUS POULTRY FOODS.—Everything for Poultry. Lists free.—SMITHS, Specialists, Audlem, Cheshire. Established 1890

CHICKEN FEEDIN IN WAR TIME.

By P. L. STANLEY

(OF THE MODEL FARMS, TWYFORD, BE

It is estimated that millions of chicks die year through improper feeding. Terrible this waste of life in normal times, it is in war even more to be deplored. Consider how tons of table birds and how many millions of would have resulted had these lost chickens looked after properly and reached maturity, you will immediately appreciate the vital im ance of taking the greatest care of every li chick. They must have the very best and wholesome foods you can give them.

I have all my life been connected with poultry industry, and it would puzzle me to how many scores of thousands, I might almos hundreds of thousands, of chicks I have re under widely different conditions, so that wit egotism I think I may claim to know somethi their needs. At the present time I have flocks of chicks at the Model Farms, Twy and they are increasing every week. You perhaps like to know how I feed them, and I w say that although you may keep only a few ch and those not under the most favourable condi —or you may be rearing under ideal conditio the methods I employ are equally suitable, will give quickly good results if carefully ca out.

The food I use for wet mash is Molassine Chi Food, which is a biscuit meal, while as the feed every night I give Molassine Dry Chick I as I have found that a mixed diet—part wet part dry food – gives better results than one posed wholly of one or the other. By g both these foods as suggested you get the h medium. They seem to me to have wond health-giving and digestive properties which I in no others, and result in bringing along st sturdy chicks quickly, and reducing the ra mortality. No chick should have food at all it is thirty-six hours old. Then give it for the week Molassine Chicken Food four times d scalded with water or milk and allowed to s fifteen minutes. Do not feed so hot as to the chicks. If chicks are with hens you ca overfeed, as the hen will clear up what chicks leave. At night give a little Mola Dry Chick Feed. The crop of a chicken sh not be bigger than a pea for the first wee two.

For the second week scald the Mola Chicken Food in the same way, but dry off Sussex Ground Oats. As the chicks will be running about, feed further from the but do not give more than they can clear Where there is limited space, and you ca move the coop to fresh ground each day, advisable to have a clean board, and if chicks have not cleared up their food in minutes take it away and give to older b Never leave the food before them to get In brooders or foster-mothers always feed board, and remove ten minutes after feeding.

It is difficult to lay down any fixed qua of food for chicks, as some breeds alway better than others ; again, in the early pa the year they will require more food than in the season, when insects and worms about. Carefully watch the chicks, and you soon notice if you are feeding them too or too little. When they are three weeks they will run to meet you if they are hu but not unless. It is better to underfeed overfeed.

The Molassine Co., Ltd., Greenwich, iss little booklet called "Foods and Feeding," w contains some very good practical hints on ch feeding and rearing and egg production. It be had for twopence in stamps, to cover co postage, etc.

Molassine Chicken Food and Molassine Chick Feed can be obtained from all the le corn dealers, stores, etc.

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

THE NEW METHOD OF HOUSING POULTRY

IN my last notes I pointed out the importance of trap-nesting. If one cannot find the time to trap-nest all the stock kept, selected birds can be "trapped" to provide the number required for breeding purposes. Then the owner is sure of improving his strain of layers season after season.

Marking Rings.—In conjunction with the trap-nest each bird wears a different coloured or numbered ring on its leg, and the resultant chicks are similarly marked. Book-keeping is necessary, but it is of the *fascinating* kind. Records of all eggs laid are kept, an egg-recording sheet being hung up in the house near the trap-nests. Each egg laid is credited on the card to the individual layer, while particulars are also noted of the weight and colour of the egg and the broody periods of the layers concerned. Our best-known utility breeders owe their success to the knowledge of the exact pedigree of every bird bred and the judicious fitting in of such details with their plans of breeding. If you were to visit a progressive poultry-farmer and single out a young pullet wearing numbered or red and yellow rings, he would be able to locate the red-rung male and the yellow-rung female representing the parent stock. The fact, too, that the rings were on the right leg might denote 1916 hatching, and if on the left leg, then 1915 as the season in which the bird was hatched.

Intensive House Principles.—When I first wrote of the intensive system of poultry-keeping I had no intention of allowing my notes to run through more than two or three issues. So many letters "asking for more" have I received, and so great has been the interest taken in the previous articles, that I will go further into this new method of housing poultry. First let me deal with the front! The reader must bear in mind that there are numerous designs of houses in use, but the general principles are identical. The lower half of the front is composed of boards and the top half of wire-netting. Hinged from the top is a screen or hood—of wood, canvas, or glass—which controls the open wire-netting part of the front. By a simple arrangement this screen can be lowered to any angle to keep out both rain and cold. At night, for instance, in bitter weather it would be almost closed. This description of the most common form of front will suffice to enable readers to understand the new style of housing. The house, I must add, is always placed with the front facing the south.

Measurements.—I next come to accommodation, and will tell the reader how to ascertain the number of birds a house will hold. An ordinary sleeping house we measure by cubic *air-space*, each bird requiring some ten or twelve cubic feet; but in an intensive structure we work out the accommodation sum according to *ground-space*. There is perhaps no set rule as to the number of square feet a hen requires, since some houses allow for three and others for four and more. Three square feet of ground-space would be sufficient for light breeds and four square feet for heavy varieties. In a house holding fifty or a hundred birds, one can be on the narrow side; but where only six or a dozen fowls are kept, one would be well advised to allow them as much floor-space as reasonable. The height of the structure will also vary according to the different patterns. One might recommend 7 feet in front, sloping to 5 feet 6 inches, or 6 feet 6 inches, sloping to 5 feet. A house in which the owner can move about with comfort is always preferable to any other. As regards the depth of the house, one can go up to 16 feet, since the sun will penetrate to that depth, and the main idea is to allow Old Sol full play each day over the floor. If I were constructing a house for six, twelve and twenty-five birds, I would probably allow for the respective structures to be 5 feet long by 6 feet deep, 6 feet long by 8 feet wide, and 10 feet long by 10 feet. It will be noticed that while one can extend in either length or depth to allow for increase in number of birds housed, I prefer as deep a house as possible. The reason is that I provide my birds with protection from the outside elements.

Internal Fittings.—The roof will be boarded in, as will the back and two sides, while in one of the latter a door will be fitted to act as the entrance to the intensive structure. At the back of the house will be placed the perch and drop-board. The latter will measure the length of the house and be several feet wide, while it will slide into grooves at each end so that it can be easily and quickly removed for cleaning purposes. Several inches above the drop-board will be the perch (or perches) running from one side of the house to the other. Each end will rest in a wooden socket to enable the perch to be removed at cleaning-time. The perch should measure 2 inches or 2½ inches in width, and the ends (at the top) should be slightly rounded off. With the dropping-board and perch so arranged, cleaning is quite a simple matter. The drop-board should be about 2 feet 6 inches off the ground, as too high a jump for the layers is not desirable.

INTENSIVE HOUSES.

A splendid range of intensive houses on the Model Farms, Twyford, where the Molassine Poultry Foods are tested.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*

The Troublesome Sparrow.

PARROWS are very troublesome where poultry are kept and they will devour much of the wls' food if they are not checked. Where only mall flock of fowls is kept, the owner, if he has time, can stand by until the birds have eaten the food provided, thus outwitting Master arrow. If the hens are fed under cover—ee the scratching-shed or intensive house instance—and thin-meshed wire-netting is use, there will be no waste of valuable poultry d in the direction indicated.

* * *

Guard Against Rats.

HERE rats are troublesome, steps should be taken to keep them out of the poultry-house. the latter has a wooden floor, well tar the bottom er nailing thereon thin-meshed wire-netting. other plan is to have the house raised off the ound. Although expensive, many run cement ht up to the house, *i.e.*, as a foundation. Quite effective precaution is to dig a trench about foot deep and 6 inches wide all round the ucture, and fill in with broken bottles and ina. Strive not to encourage rats by leaving food about. Keep covers on the food-bins, d tar the latter half way up.

* * *

The Hay - Box.

HE hay-box should be more widely used by poultry-keepers than it is. The appliance sists of an ordinary Tate sugar-box (or similar eptacle), around the inside of which news-pers are tightly pressed. The bottom (over the wspapers) is covered thickly with hay, while e latter is packed tightly into the corners. A ucepan or stock pot is used in connection with e hay-box. Having placed in the saucepan e food intended for the fowls' morning feed d brought it to the boil on the fire, the stock pot placed inside the hay-box. Two thick hay-ffed cushions are next placed on the top of the ucepan, and in the morning the food will be nd warm and ready for use. If the stock pot ntaining the food has a drop handle, so much the tter, while a lid can be fitted over the sugar-box.

GS FOR HATCHING from the finest g and exhibition strains—first pens 10/-, special pens 20/- tting, unfertile eggs replaced. Day old chicks 16/- and per dozen. Adult birds always for sale, moderate prices ls kept: Golden, Silver and White Wyandottes, White orns. Rhode Island Reds, Light Sussex, Buff Orpington s.—SYDNEY HILLER, Cleveland Poultry Farm, Standon, s.

PRACTICAL POULTRY POINTERS

Badly reared chicks are useless as future breeders or layers, and are expensive to keep.

* * *

Young stock should be kept growing from chicken-hood to pullethood.

* * *

Overcrowding must be strictly avoided where young stock are concerned.

* * *

A chick's first meal should be fine gritty sand.

* * *

Food-troughs when not in use should hang on the wall.

* * *

Do not rob the hens of any ground-space. If possible, have inside accessories raised on platforms, thus allowing the fowls to utilise the ground underneath.

* * *

The lower part of chicken runs should consist of small-meshed wire-netting.

THE FIRST BIRDS
on the Market are those
fed on

UVECO

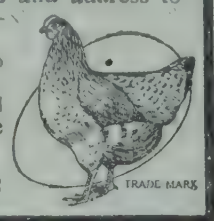
POULTRY FOOD

UVECO Poultry Food will bring big-framed, plump birds, weighing from 3 to 3½ lbs., to market in nine weeks from shell. This is not an idle statement. It has been proved by thousands of wise poultry-keepers and "back-yarders" all over the country.

Ask your dealer for a bag to-day; if he does not stock, write for a

FREE SAMPLE

giving your own and his name and address to UVECO CEREALS Ltd., 30 Brunswick Street, Liverpool.



Please always order Uveco Poultry Food; otherwise you may get Uveco Cooked Food for animals, and not that made specially for Poultry.

Sold in 7, 14, 28 56, and 112 lb. bags, all brands of Uveco Poultry Food.

Make Your Garden Keep You

BY USING

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Extracts from letters received from pleased users:

POTATOES: "Did wonderfully well for potatoes. We took first prize for them. I never saw such perfect ones. They were beautiful and clean."

"Eight roots lifted on June 30th, RITO-treated, weighed 21 lbs. Eight roots without RITO weighed 12 lbs."

Equally good reports from growers of all Garden Produce.

PRICES:—3 bushel bag, **17/6**; 2 bushel bag, **12/6**; 1 bushel bag, **7/6**
Carriage paid. Cartons **1/-** each. Ask for Booklet "Rito Results" from Dealers, or

THE MOLASSINE COMPANY, Ltd., 22, Tunnel Avenue, Greenwich

RITO SUITS EVERYTHING THAT GROWS.

BY APPOINTMENT. BY APPOINTMENT.

IZAL

DISINFECTANT FLUID

"A worthy and formidable weapon for battling against the bacillus."
—Sir J. CRICHTON-BROWNE, F.R.S.

Use Freely in Hen Roosts, Pigeon Cotes, Aviaries, etc.

Against Influenza.—"Give daily to all the birds Izal in the soft food. One liquid ounce of Izal should be added to each eight gallons of liquid used for mixing the soft food. The result has been so beneficial that I think it should be known."

Against Colds and Roup.—"I mixed twenty parts of water to one of Izal, dipped their heads in it for a few seconds night and morning, and at the end of a week they could all see and were on the feed again."

Against "The Gapes."—"Of the advertised disinfectants Izal is the best, and the only one which I have found capable of penetrating the chitinous coating of gapeworm ova."

IZAL POWDER dusted among the feathers rids the birds of insect pests.

IZAL FLUID, 3/6 ½-gal., 6/6 per gal. **IZAL POWDER,** 2/6 per 14lb. bag. 6/6 per 50lb. keg.
Sent carriage paid on receipt of remittance.
Ask for Free Copy of "Healthy Poultry."

Newton, Chambers & Co., Ltd., Thorncliffe, nr. Sheffield.

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is SUPERIOR to, yet CHEAPER than shell, and is manufactured by BRITISH LABOUR.

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EVERY THURSDAY,
AT ONE O'CLOCK, AT
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Central Sale Rooms,
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The BEST and Cheapest.
...to quantity of each size required and how ... carriage or ... station ("carriage" frequently amounts to half value of goods) or write for Price List, free.
SPECIAL POTS of all descriptions. Bulb Bowls and Fern Pans from 2d. each.
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in large or small pieces, from 1/- per ton.
Stone Garden Rollers, Crazy Paving, Spar, Limestone, or Gritstone Chippings for Footpaths.
ORNAMENTAL SHRUBS, FRUIT TREES, Etc.
ENQUIRE
THE STANCLIFFE ESTATES CO., Ltd.,
DARLEY DALE, MATLOCK.

ONCE TRIED ALWAYS USED,
THE 'PATTISSON' LAWN BOOTS
SIMPLEST! STRONGEST! MOST ECONOMICAL!

FIG. 1.

Soles of best English Sole Leather (Waterproofed), with Motor Tyre Rubber Studs.
The "PATTISSON" BOOTS are the most durable on the market, outlasting several sets of ordinary boots, and when worn out can be many times refitted and are then *equal* to *new ones*, but this may only be **satisfactorily done by us, the makers.**

RUBBER SOLES STRONGLY RECOMMENDED.

SILVER MEDALS Royal Horticultural Society, 1904, 1914. ROYAL INTERNATIONAL EXHIBITION, 1912.

Used in the ROYAL (and in thousands of the PRINCIPAL) GARDENS.
HUNDREDS OF TESTIMONIALS.

FIG. 2.

The Field says: "**As good as anything that could be devised.**"
Mr. TROUP (Head Gardener to H.M. THE KING, Balmoral Castle) writes: "The boots supplied 2 years ago **are as good as ever.**"

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LION CYCLES £6:6:0

or 15s. with order and monthly payments. Signed Guarantee time. Packed in crate free and carriage paid. Since 1905 advertised in this paper, and have made and sold over 20,000 Ma NO EXTRAS: Lamp, Bell, Pump and everything included. C paid. YOU CAN RIDE AND TEST THE MACHINE F DAYS. IF YOU DO NOT APPROVE I PAY ALL CARR I have thousands of Testimonials. Write to-day for copi Catalogue with illustrations and full specification.—GE BEATSON, "Lion Cycle Works," 85, Moseley Street, Birming

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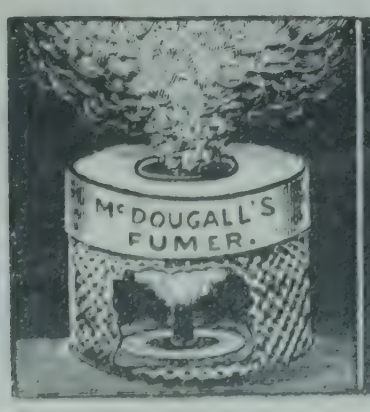

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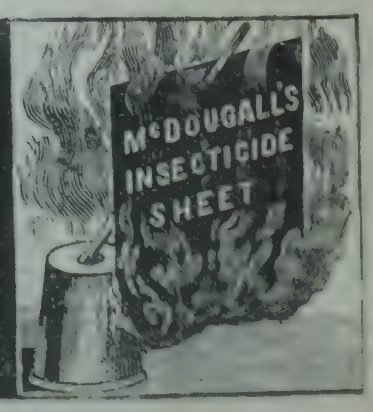

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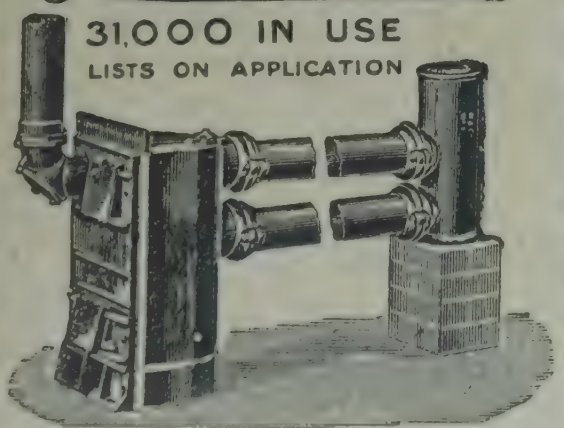

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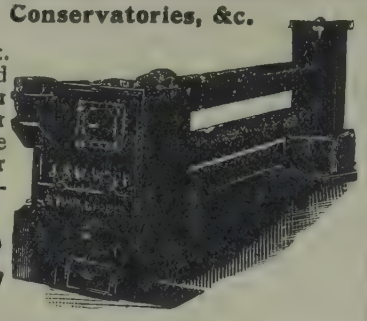

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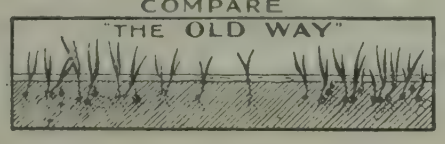

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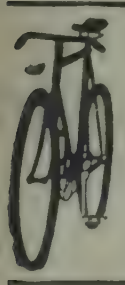

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THE GARDEN.

No. 2368.—Vol. LXXXI. April 7, 1917.

NOTES OF THE WEEK

THE "lazy-bed" system of growing Potatoes is worth mentioning at this time. It was once much in vogue throughout the British Isles, and has considerable advantages. The name is against it, and improved drainage conditions may have rendered it unnecessary, but with difficult ground to tackle it may usefully be recalled to memory and consideration. Those who know say that there is no better system for wet bogland, low, marshy places, and in the many rough places which necessity makes use of and where ploughing is very difficult. It is, in fact, the bed system, only the trenches are made at the time of planting, and the "planting" is reduced to the minimum of labour. Hence the name.

The Method of Planting.—Beds 4 feet or 5 feet wide are taken and manure laid upon them, and the earth from the trenches is just thrown over the Potatoes, which are placed on the manure without planting in the ordinary sense. Three inches or 4 inches of earth corresponds with a trench of 18 inches to 24 inches in width, and earthing up may be continued several times afterwards. This method gives good crops, and was still considerably used some few years ago. It is perhaps less laborious than the ordinary way, and it has the great advantage of providing drainage. The cultivation is not so slipshod as appears at first sight, for in three years all the ground is very thoroughly moved by making fresh trenches yearly. If the subsoil is tricky, this might be a stumbling-block, however, as Potatoes like to live well, and the alleys being 2 feet deep, a lot of sour soil might have to be brought to the surface.

War-Time Use of Sugar Beet.—A special pamphlet on this subject is issued by Messrs. Ryder and Son, Limited, St. Albans. The pamphlet is written by Mr. Dennes, who has for a long time been making experiments with Sugar Beet. It is recommended that the Sugar Beet should be boiled, and afterwards used in the preparation of jam in the proportion of one-half to two-thirds, according to the ripeness and sweetness of the fruit. It obviously adds materially to the bulk of jam produced, and little or no sugar is said to be needed. The writer of the pamphlet makes it quite clear that this is a war-time method, devised to meet the special needs of the sugar crisis, and therefore the quality of the preserve must not be expected to equal that obtained by preserving with sugar only. The subject is still in its experimental stage, and we might add that correspondents who have so far given us the benefit of their experience do not report in favourable terms of the use of Sugar Beet for jam making.

CAULIFLOWER RELIABLE, A DWARF VARIETY OF GOOD PROMISE.

Dwarf Cauliflower Bath's Reliable.—This is a comparatively new variety possessing the many excellent qualities of the well-known Autumn Giant Cauliflower. But the new-comer has the advantage of being much dwarfer, and may be planted closer. It produces immense pure white heads, and its outer leaves protect the flower as in the Self-protecting Broccoli. This variety should be sown now, and is in season in early autumn. The advantage of the protection from the sun's rays is very marked in August and September, and the heads retain their whiteness for many weeks.

A Beautiful Star Primula.—Among the numerous colours of Primula stellata, it is doubtful if there is anything quite so effective and pleasing as Coral Pink Star. In the greenhouse it is a lively glistening colour, while plants used for indoor decoration or cut sprays on the dinner table are distinctly attractive under artificial light. Though the month of May is favoured by many growers for sowing Primula seeds, it is quite worth while making a sowing now to obtain larger plants by the normal flowering season.

Pine Blister Rust.—From Mr. T. N. Cook, Boston, U.S.A., we have received a bulletin issued by the Massachusetts Forestry Association on the Pine blister rust. Incidentally, we might mention that the bulletin bears evidence of having been recovered from the sea. From it we learn that "The Pine blister or blister rust, as it has often been called, is a European disease with a bad reputation in its native country. It has been introduced into America on White Pine nursery stock within the last sixteen years. Ninety per cent. of all the diseased stock in this country came from a single nursery in Germany. In Europe it has made the growing of White Pine impossible in Denmark, Holland and England. The disease now threatens to make the growing of White Pine impossible in the United States and Canada, and this includes not only the White Pine of the East, but the Western White Pine, the Sugar Pine, the Limber Pine, and other five-needle Pines of the West." There seems to be no cure for the disease at present, and no tree once attacked has been known to survive.

*** *Owing to the shortage of paper, readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. Readers will thus obviate the waste consequent on the issue of papers for chance sale, and so greatly assist in the economy campaign.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

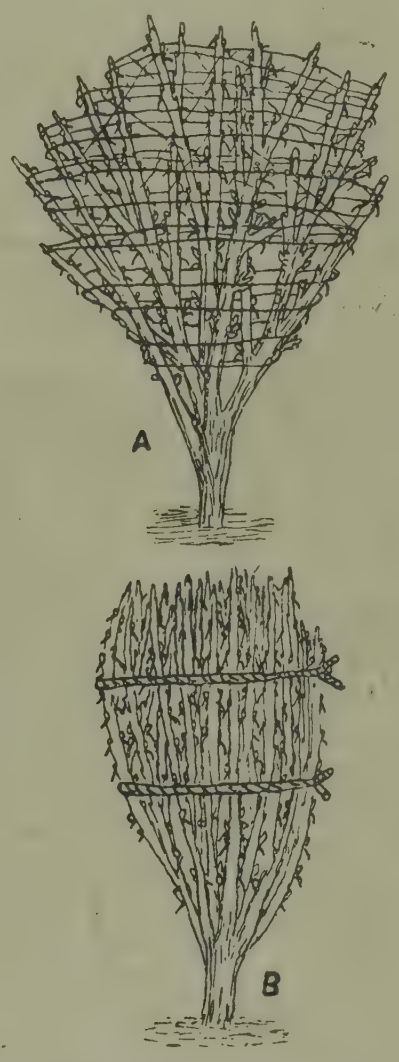
Dry Wall Gardening and Sphæralcea.—Judging from his description of Sphæralcea Munroana—"a trailing plant with much-divided silvery leaves and cherry pink flowers"—Mr. H. Avray Tipping does not appear to possess the true plant, that described being obviously S. pedata. S. Munroana is an erect-habited, shrubby plant having *entire*, somewhat hoary leaves and orange—almost orange scarlet—flowers. In habit of growth and flowering it is not far removed from S. canescens, which gained an award of merit last year. In all probability confusion has existed between the first two species named, S. pedata having got into more than one good collection as S. Munroana. How, it is difficult to understand, seeing that the two are widely distinct.—E. H. JENKINS. [Mr. Avray Tipping informs us that the Sphæralcea in question was given to him years ago by Mr. Bulley of Neston, before Bees, Limited, was started. It was then labelled S. Munroana. Messrs. Bees have a plant almost exactly like it, except for the colour of the flower, which they call Malvastrum coccineum.—ED.]

The Passing of the English Hop Garden.—The English Hop garden is threatened with extinction. The restrictions placed on barrelage by the Food Controller will cut down the demand for English Hops by 75 per cent. Besides, the land and labour involved are needed to grow Potatoes and cereals. Growers are accepting the situation with equanimity, but many of them are placed in a very serious position, as they have large stocks on hand and have already purchased manures for the 1917 crop. We are getting quite accustomed to radical changes now, and many of them go practically unnoticed, but it will not be without regret that many of us will witness the passing of the Hop garden. Apart from its economic value, which is open to doubt, there is ever something charming and fascinating about the Hop, and the disappearance of the plant will not add to the beauty or the splendour of our country-side.—L. M. MARSHALL.

Making the Most of an Orchard.—Your Poultry Expert remarked recently that an orchard may be made to yield *two* crops if fowls are run on it—fruit and eggs. I do more than this. My young orchard of some two acres yields (1) fruit (the Plum trees have already paid for themselves); (2) eggs from the fowls which run in it; (3) honey from the bees (there is plenty of white Clover in the orchard); (4) hay (the trees are 25 feet apart); (5) Mushrooms (by the Editor's advice I put some spawn in last June to augment this crop). This year I intend to tether the nanny-goats there for the greater part of the year, so hope to have a land flowing with (6) milk (as well as honey). There are also four small enclosed plots for flowers, for the bees, and for me, but I do not count these as a crop.—ANNE AMATEUR.

Runner Beans Scarlet and White Emperor. Where there are so many varieties of Bean in cultivation, it is at times difficult to recommend one as being superior to others, but in the case of the above I have no hesitation in saying that they are both superior to many other varieties. They grow easily 14 feet high, give pods as many inches in length, straight, even in width, and, what is of more importance, the flesh is succulent and devoid of all stringiness. Owing to the continuance of their cropping qualities they should find many admirers, as in a limited garden space this is most important.—E. M.

Protecting Gooseberries from Birds.—The ravages caused by birds on buds of Gooseberry bushes in some seasons are so great that not only is the fruit crop hindered, but the trees materially affected by the injury done. To check this destruction of buds requires attention and labour on the part of the grower, but the time expended is not ill spent. In the first place, resort may be had to the entwining of black cotton around and between the branches on a liberal scale. Another suitable method is to bunch the branches, and by means of one or two strands of rope secure them in the same manner as nurserymen do trees for despatch to customers. Treated thus, the birds



PROTECTING GOOSEBERRIES FROM BIRDS.

A, *Bush with black cotton entwined around and between branches;* B, *Branches tied together by means of rope, especially suitable for young trees.*

are baffled as regards the innermost buds, while, strange as it may seem, they then seldom molest the outer ones. The two foregoing are permanent means during the season. A method which acts for a brief period, but requires repeating at intervals, is that of spraying with nicotine emulsion. —GEORGE ROWLES.

The Spraying of Fruit Trees.—I do not propose to discuss the nature of courtesy with Mr. Gibson; our ideas are too far apart. But I will take leave to recall him and others who have joined in this discussion to my original points, namely, that the continuous use of caustics injures a tree as much as it injures its pests, and that no application will destroy insect eggs which is not strong enough to injure the bark. The authorities I adduced, supplemented by Mr. Chittenden's letter, are weighty authorities, are fully corroborative of my statements, and cannot be brushed aside by any number of American bulletins. Mr. Gibson seems hardly to appreciate the requirements of evidence. Two only of his many quotations touch the destruction of insects, and it is not apparent that even these two are concerned with the winter egg stage. Besides, Mr. Gibson is riding off on an American horse which cannot carry him. When I asked him for actual figures as to the respective crops of sprayed and unsprayed trees, the cost of spraying, &c., I was obviously asking for English and not American statistics. The distinction is of absolute importance. It is well known that the American climate gives a much harder bark, less liable to injury by caustics—though even in the United States of America and in Canada continuous spraying has done harm. And—an extremely important point—in America a sprayed orchard is not surrounded, as an English orchard almost always is, by old, neglected orchards. The infection from these makes spraying, if it is necessary at all, necessary *every year*, and vastly increases the expense. *Cost is really the determining factor*, and neither Mr. Gibson nor anyone else supplies me with verified figures. I ask again: What would an outfit cost me for from two to three acres of trees, half of them large standards of sixteen years' growth; what would the annual cost be, and what my probable profits over the cost? Outlay *versus* returns is a much more cogent consideration here than in America, where some sort of crop is almost certain; whereas here, after the spraying outlay, spring frosts may give a nil return two or three seasons running.

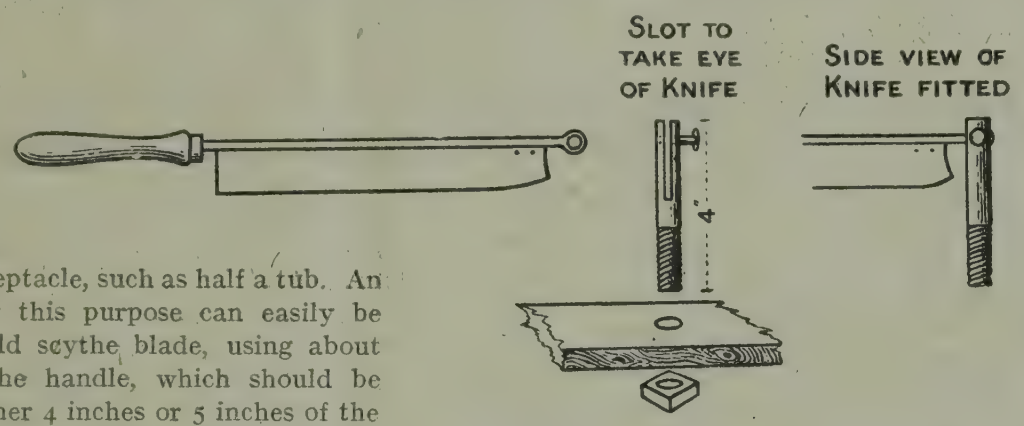
I shall be delighted to be "budged" by Mr. Gibson or anyone else who gives me facts and not rhetoric. My contention may be put in the form of a question: Has all this spraying *paid?* Both "H. A. W." and "T. A. W." own that caustic washes have practically been abandoned; where, then, are the large sums which have been spent on them? "T. A. W." gives no figures as to Mr. Miskin's expenditure *versus* receipts. He says "it is safe to hazard that the famous Apples [of Kent] are not the result of non-spraying." I might answer (though I do not see the logic of either his remark or mine) that my Cox's Orange Pippins, which have taken first prize at the Royal Horticultural Society's great show each time I have exhibited, *are* the result of non-spraying.

I readily concede to Mr. Chittenden that *some* pests are probably dislodged by winter spraying. But the true issue is this: Considering the costliness of apparatus, washes and labour; considering that almost every nostrum in favour to-day is abandoned to-morrow; considering that our foremost authorities are agreed that insects which constitute the half or more of our enemies, are immune from any known winter spray, and considering that it is impossible to obtain definite and trustworthy figures as to the outlay and receipts, is this spraying business a wise investment for the growers of limited means, who constitute the large majority—at all events, until someone gives us much better information than Mr. Gibson has done?—G. H. ENGLEHEART.

The Nettle as a Food Plant.—At this time, when every available article of diet should be utilised to the full, I think it should be made as widely known as possible that in the common Nettle (Urtica dioica) we have a very palatable

and a very wholesome vegetable, not unlike Spinach in flavour. As a boy I used to partake of it occasionally, under the name of "Nettle Kail." The word "Kail" (not Kale) in the North-East of Scotland is applied to Borecole or greens; South of the Grampians "Kail" stands for broth or soup. But this is a digression. For a plain vegetable the young shoots of the Nettles should be picked (with gloves on), washed and boiled, after which it will be an improvement to pass them through a hair sieve as is done with Spinach. A little bit of margarine or dripping, with a seasoning of pepper and salt, should then be added. I see from McGillivray's "Withering's Botany" that in the Hebrides Nettles mixed with oatmeal are used for food. I lived five years on one of the isles (Raasay) of the Inner Hebrides, but I never heard of Nettles being used for food there. Kail (greens), mashed and mixed with a little oatmeal, used to be a common dish in farm kitchens in Aberdeenshire half a century ago.—Caledonia.

Stinging Nettles as Food for Pigs.—The correspondence recently appearing in the columns of The Garden has suggested to me that a few notes on their usage for the above purpose in these times of forced economy might not be out of place. For a long time the cottagers and small-holders in this part of the South of Ireland have used the growths of young Nettles for pig-feeding, their *modus operandi* being as follows: The growths are cut and collected in a sack (I need hardly say that the use of gloves renders the work a greater pleasure), and are then chopped up on a board over a receptacle, such as half a tub. An ingenious device for this purpose can easily be formed out of an old scythe blade, using about 15 inches nearest the handle, which should be cut off, leaving another 4 inches or 5 inches of the backbone nearest the point end on which to fix a handle. The end of the scythe blade which ordinarily joins it on to the handle is then turned so as to form an eye. An old bolt about 4 inches long, with a thread on the end, is divided into a crutch shape about half its length at the opposite end, and the eye formed riveted in so that it works freely. The bolt is then passed through a piece of inch board and secured underneath by a nut. The blade can be sharpened at will in the ordinary way, and by grasping a good handful of growths tightly they can be soon chopped up. Of course, this would be too primitive a method where a number of pigs are kept, but I have often thought that the growths might be dealt with more expeditiously in a chaff-cutter. Cabbage and all green food is dealt with in this manner, and the whole softened by pouring on boiling water, to which has been added crushed Maize. This is allowed to swell and soften, and is known locally as "stirabout." The tub is then covered over with a sack to keep in the heat. This forms a good basis to which the other ingredients can be added. It would be of interest to know what other weeds might be put to the same purpose.—E. B., *Fota Gardens, Queenstown.*



A HOME-MADE NETTLE CHOPPER.

Big-Bud on Black Currants.—The opinion expressed by Mr. Bartlett that on light soils Black Currants are more open to attack than on those which are heavy I fully endorse, and that because conditions prevail which are more suited to the mite's requirements, its increase, &c. Heavy soils are cold and largely moist at the period of prevalence and productivity; hence the reason is simple to understand. I desire to emphasise the need for everyone to utilise whatever means permit towards eradicating this pest, for by so doing he will confer a benefit on the community. There can be no infallible cure until legislation in respect to pests and plant diseases becomes, not confined to one or two in particular, but embraces all. The loss to this country through slowness on the part of the governing body to recognise the need for such is so great that, put into actual figures, it would appal not only outsiders, but many who are within the ranks of horticulture.—G. D. Rowles.

——I fully agree with Mr. Cecil Bartlett when he states that cutting back is no remedy. To my mind it is utterly useless, for I have cut bushes to the ground and watched the new wood develop big-bud as it grew. I may say that I have during the past six years kept my bushes absolutely free from big-bud, although my neighbour's bushes, part of which are Boskoops of the self-same stock as my own, are simply teeming with the pest. The sole reason of the apparent immunity of my bushes is close watchfulness and frequent spraying with a well-known fruit wash. In the winter the bushes have been sprayed with winter wash, and during April, May and June have been sprayed with a summer wash. As is well known, the mite is migrating during the early spring, and can only then be combated either with the dry lime and sulphur or with some effective fluid. By the spring and summer spraying I am able to keep down the Currant aphis, which in my garden is always a serious pest. Regarding immune varieties, I believe I may say that Seabrook's Black is the only one that has any such reputation, and for this reason it is being largely planted by market-growers. The French Black is certainly no safeguard against big-bud, and unless I am mistaken this variety is often liable to "run out"—that is, degenerate to a worthless, non-cropping form. This "running out," however, is often encouraged by foolish cutting back of the tops. Black Currants must not be cut back like the Red or White Currants. When the bushes become ungainly, cut out one or two branches right down to their base and encourage new wood from the base as much as possible. Never plant Black Currants with a leg, for the nearer the crutch is to the ground the more one gets of new branches, which are essential if the bushes are to continue healthy and profitable. Heavy land is no safeguard against mite, for my neighbour's bushes are growing on sheer clay and, as stated, every bush is burdened down with big-bud.—T. A. W.

THE GROWING OF VEGETABLES

By Mrs. C. W. Earle.

TOWARDS the end of March several wild plants can be used as vegetables. Nettles when quite young, about 6 inches high and well washed, make an excellent substitute for Spinach, dressed in the same way. Young wild Dandelions make a wholesome salad, though, of course, not as good as that made from the cultivated and forced Dandelions mentioned before. The young shoots of Hops can be boiled like Asparagus. Young Bracken shoots, cut below the soil, are considered a delicacy in Japan, and I read in a newspaper the other day how the Japanese prepare them: "Pick the tender parts of the Bracken shoots, wash them carefully in fresh water, put them into boiling water for two minutes, then remove them to cold water and leave them for a couple of hours. They can then be cooked like Seakale and served with any sauce that is liked, as they have not much flavour."

Celeriac is not a great favourite with gardeners, as they are often unsuccessful in growing it, and many gardening books say it wants just the same treatment as Celery. Now, that is not my experience. It must not be planted in a trench, but on the top of the ground and nearly 2 feet apart, and never be earthed up. Dutch hoeing is very useful, as with most things, and the situation should be sunny. The Celery fly will attack Celeriac in the same way as it does Celery proper.

Cress can be grown under glass or in a hotbed on a garden mat and well watered; this prevents grittiness, which is an advantage. It should be ready to cut in ten days or a fortnight. Mustard germinates quicker than Cress, and so should be sown three days later. Salsify is another vegetable not always grown as it should be where there is room. It is easy to grow, very hardy, and a useful addition to winter vegetables. Seed should be sown in April in ground quite free from manure on the top, but some good rotted manure buried deeply is a help. It can be cooked in a great many ways, and is generally helped by a little Lemon juice. I find one of the best ways is either in shells or earthenware saucers, cut up in a sauce exactly like scalloped oysters and served with pieces of Lemon. Another good way is to cut it lengthwise, fry in egg and breadcrumbs like smelts, and serve with Parsley sauce apart and Lemon juice.

Sugar Corn or Maize can be grown here in the South of England. The smaller kinds ripen best. The plants must be brought on in a little heat, and not planted out in rich soil till quite the end of May, as any frost injures them. Maize will perhaps never be as popular with us as it is in America, because the half-ripe growths are very ugly to eat; they are plain boiled, covered with a piece of cold butter, taken with both hands and simply gnawed. This is not pretty; but if not too ripe, Maize is excellent.

Cuttings of Globe Artichokes.—Since the foregoing notes were penned Mrs. Earle writes: "The very severe frosts of the last week have, I fear, destroyed my Artichokes, which had just started into growth. Will those who have applied for cuttings take this my apology if they do not receive them?"

RECOLLECTIONS OF THE GARDENS AT EARLHAM HALL

BY E. A. BOWLES, M.A., F.L.S.

I HAVE undertaken to write some notes on the beautiful new gardens at Earlham to accompany these excellent photographs taken there last summer by Mr. Malby. Having no notebook to turn to to refresh my memory, I must let my mind wander back to the many happy days I have spent there, and conjure up recollections of my impressions of the improvements Mr. Morris has made during the last three years.

I had heard of the charms of Earlham from various Norfolk friends; of the beautiful old house with its flint front, red roofs and gables and clustered chimney-stacks, but especially of the wealth of Winter Aconite and bulbous plants in the wilder parts round the house. I first saw it in the glow of a September sunset, and coming out of the garden door, shown in the first photograph, standing on the broad gravel terrace on the south side of the house, I was delighted with the quiet beauty and dignity of the view. A very fine expanse of beautifully kept lawn rises away from the house to another straight terrace walk parallel with the house, bounded by a bank of Box and Ivy that makes a restful, deep green line on the near edge of a sunk ditch, over which is seen the park and its fine old trees. To the westward the lawn loses itself in a very beautiful grove of Oaks, one of the most beautiful I have ever seen. They have been carefully tended and brushwood trimmed away, and so thinned this has now been cleared away, and were it not that some of what remains is very useful as shelter from wind, more might go, and the grand old trees stand alone on the turf to show their full beauty.

There was the finest mass I have ever seen of Clematis Viticella alba on the wall of the built-out library wing, and that it is still flourishing may be seen by the hundreds of its white blossoms that show up so clearly above the white seat in the photograph. I also recall delicious ripe Figs from the large tree next to it, and then a stroll along the path in the foreground, by the fine sweep of semi-circular wall and its many climbing shrubs. This leads into the formal garden enclosed on three sides by old red-brick walls, then chiefly covered with Pear trees that bore none too well, and are therefore giving place to good flowering shrubs. My first impressions of this part of the garden have, however, been so completely eclipsed by visions I can recall of later summers and autumns that the earlier ones may be dismissed. I can see it with my mind's eye as a delightful harmony of shades of blue, lilac, silvery grey and softest pink.

A very charming Verbena is made great use of. It was a seedling raised at Earlham and selected for its large flowers, free habit and delicate shades of lilac and mauve, varying according to the age of individual flowers, but always soft and delightful. A very hardy and dwarf form of Agapanthus

EARLHAM HALL, NORWICH: SOUTH FRONT.

that each tree is in exactly the right position to be admired and yet to permit vistas of the view down to the river, or to the blue distance, between their stems, many of which are clad in close-growing Ivy.

The eastern grove contains some fine old Larches and Scots Pines, but was ruined when I first saw it by an ugly border of heterogeneous and unhealthy shrubs in front of it. Most of umbellatus, not quite the same but much like one sold as A. intermedius, is a fine sight here when in flower, and fills the bed round the little Cupid, rescued from oblivion in a Laurel bush and now the reigning deity of this garden, but, quite harmlessly employed with a lyre instead of his bow. Tall specimen plants of Plumbago capensis carry on the soft blue tones, rising out of Verbenas and Heliotrope; Centaurea Clementei provides masses of finely cut silvery leaves, as no other plant can; and soft pink Verbenas fill some of the borders under the walls. The scent of these beds is as delightful as the colour effect, and both do great credit to Mrs. Morris' good taste, for she has had the chief hand in their planning.

Opposite the entrance to this little formal garden lies a broad, straight path between two shrubbery borders. It is known as Wilberforce's Walk, because the great Wilberforce spent much time here in the days of "The Gurneys of Earlham," and was accustomed to walk up and down this path meditating his great plans for emancipation. Certainly there was little in the nature of the shrubs to distract his thoughts, for when I saw it first it contained the moribund remains of Portugal Laurels, Cherry Laurel and Box that are usually found as the result of "filling up" such borders with these plants and then leaving them to look after themselves till they have fought and choked one another into a common state of shabby leanness. Stretch by stretch they go, and Mr. Morris plants bold groupings between the stems of the fine trees and large Hollies that still preserve the character of the long, shaded walk. Many of the newer Primulas, such as the Lissadell hybrids, Lilium giganteum in fine masses, and L. croceum and testaceum do magnificently here with a backing of Bamboos. Again, rare and new Berberises of many species and the best of the Cydonias form other groups that pleased me most, and so are best remembered as I saw them last summer.

Continuing to the eastward we came to a large paddock in which racehorses had at one time been the chief feature; but when I first saw it, plans, levelling and tape measures were the things of the moment, for here the greatest changes of all were to be wrought. The long herbaceous borders were to carry the garden on along each side of a broad grass terrace; a sunken square garden for Roses was to occupy the central space, with new tennis lawns behind, and beds of shrubs and Bamboos at one side leading up to the rock garden. Now all this has been accomplished, designed by the joint brains of Mr. Morris and Mr. George Dillistone, of Messrs. Wallace and Co., and carried out so well that three years later it is almost impossible to recall the old paddock and to believe that much of the rich collections of herbaceous and rock plants then existed only as divisions in course of propagation, small pieces taken off the old-established clumps in the other beautiful garden that Mr. Morris had made at Wretham, his home for so many years, till a disastrous fire destroyed the house.

The next illustration speaks for itself, showing so well the long stretch of herbaceous border in full blow, the well-clad retaining wall of the sunk garden, two of the Rose beds, and the charming paths of narrow Dutch bricks that by now look as though they had been walked on for three centuries instead of three years. The blending and grouping of colours in the herbaceous beds have been very carefully planned and are most successful, and the growth of the plants is remarkable. Thalictrum dipterocarpum is not one of the easiest of plants to get on with, yet here, aided by a judicious blend of leaf-soil and manure as a mulch just as the flower-stems were lengthening, several of the spikes in a large group were over 8 feet high. Delphiniums were magnificent in these beds, and I have never seen Helianthus orgyalis achieve such stature and

wealth of orange yellow blossoms elsewhere. The latter part of last season was none too helpful for Roses, but the beds of Mme. Edouard Herriot, Mélanie Soupert, Autumn Tints and other newer Roses were fine sights whenever a sunny spell gave them a chance.

I hope we shall on some other occasions see photographs of the rock garden. It is built with the most beautiful of all stone that can be used—water-worn mountain limestone, and many very large and beautiful blocks were brought from Wales to fit into the framework that Mr. Dillistone pieced together so cleverly, and the ensuing years, Mr. Morris' watchful eye, and Mr. Fitt's skilled hands have filled with such a glorious and healthy growth of rare alpines to make one of the most beautiful garden pictures I can recall.

No notes on Earlham Gardens would be complete without mention of the grand collection of Perpetual-flowering Carnations, the work of many years in hybridising from the very best kinds. Such good things as Lemon Queen, the only really Clove-scented yellow yet raised, and the brilliant red Elizabeth are two especially good seedlings that have resulted from this work. Nor is this the only line in which Mr. Morris and his head-gardener, Mr. Henley, have been successful in winning awards for their creations. Broad beds of seedling Montbretias form a great feature of the garden, and Queen Adelaide, George Henley and Queen Elizabeth, which have won the high honours of the Royal Horticultural Society's award of merit, are not the only Earlham seedlings deserving of them.

Looking at the photographs makes one wish it were once more summer; that Mr. Fitt was back again in his rôle of custodian of the rock garden instead of serving his country in a sterner way; and that Peace had brought back to Earlham the many skilled workers needed to keep such a fine garden in the condition worthy of it.

HERBACEOUS BORDER AND RETAINING WALL AT EARLHAM HALL GARDENS.

THE SEVERE WINTER:

ITS EFFECT ON SOME OF THE NEWER PLANTS AND SHRUBS

(*Continued from page* 108.)

THREE Cotoneasters that remain quite unaffected are C. adpressa, C. applanata and C. pannosa; but C. humifusa was badly treated by the wind, not so badly, however, but that it will recover. C. congesta and C. pyrenaica suffered in a less degree; while the older C. microphylla and C. thymeæfolia have lost most of their leaves.

It is pleasant to record of the Cytisuses that C. Beanii, C. Dallimorei and C. kewensis have all proved themselves capable of standing with impunity the worst treatment they are likely to receive. Davidia involucrata, planted in a fairly sheltered position, has survived without a trace of disaster. Doubts have often been expressed about the hardiness of three Ericas, arborea, lusitanica (codonodes) and Veitchii. It was believed by many that these plants, while quite happy through a moderate winter, would not stand one of unusual severity. It is therefore good to find they have all come through practically untouched. True, they have been somewhat sheltered from the worst winds. One of the older but uncommon Hypericums, the delightful little empetrifolium, has nearly succumbed. Ilex Pernyi is as sturdy as it looks, and of the Ligustrums both Delavayanum and Henryi have proved themselves quite safe plants. To me personally, one of the greatest pleasures is to find that we have a valuable new and hardy hedging plant in Lonicera nitida; I do not mean a plant for field fences, but one that will prove invaluable for neat and trim garden hedges. It looks too dainty and delicate to be hardy; it grows quickly, and can be trimmed as freely as Box or Yew. With its young growth it is a delightful shade of bronzy green, and is just the shrub to use where divisions are required rather than protection or screen, although there appears to be no reason why it should not perform the latter service if desired to do so. I hope its future is to supplant the eternal Privet and Laurel. It is, of course, valuable on account of its foliage, and as a flowering plant this tiny white Honeysuckle does not shine. It, however, bears attractive blue purple berries. Except for a few belated autumn growths it is quite unharmed, and I should have no hesitation in planting it in places where Euonymus japonicus failed to survive. I am anxious to find how it succeeds in the sea air, as it would be pleasant to see it replacing the coarse, clumsy Euonymus as a hedging material for seaside gardens.

Of the Olearias, macrodonta, moschata and stellulata are all untouched; but Ozothamnus rosmarinifolius resents the keen wind, as also does Rhamnus Perrieri, this latter very much. Potentilla Veitchii and Rhododendron racemosum remain quite cheerful under adverse conditions, and the older Romneya Coulteri, despite its reputation, is perfectly happy. Sarcococca ruscifolia is unaffected. The foliage of Stransvesia undulata has suffered from wind, but only comparatively slightly. Veronica diosmæfolia looks very bad. It is good to know that our faith in the beautiful Viburnums Carlesii, dilatatum, Henryi, macrocephalum, plicatum and rhytidophyllum has not been misplaced, and all are quite unharmed.

In conclusion, I must add that of all those I have mentioned, very few have suffered so severely as to justify their exclusion from the garden. It would be interesting to hear if experiences generally coincide with ours at Colchester. Everyone will agree that it is annoying to make use of a plant, tree or shrub and then find just as it is growing interesting it will not stand the climate except under conditions that are exceptionally favourable. It is only when we get these spells of more than usually severe weather the test can be applied, and records of results are consequently valuable.

GEORGE DILLISTONE.

THE ALLOTMENT WEEK BY WEEK

BY A. CECIL BARTLETT.

SPECIAL attention should be paid to the food value of the crops which it is intended to grow, and with this in view Parsnips, Broad Beans, Peas, Onions and Turnips should have ample shares of the plot. Turnips are not so feeding as the other vegetables, but they are especially valuable, in that if such small, quickly maturing sorts as Early Milan, Early Snowball or Yellow Six-weeks are grown they yield sooner than any other outdoor vegetable. With a view to economy of space, the drills for these early Turnips need not be more than 9 inches apart, and the seed should be covered with half an inch of soil. Thin sowing ought to be practised, and, as some of the roots may be pulled before they attain full size, little or no thinning of the seedlings will be required. The later varieties of Turnip have more luxuriant foliage, so they must be sown in drills 15 inches

apart; while Parsnips require 18 inches and should be sown quite thinly.

Particular attention should be paid to successional sowings, and by timely preparations endeavour, once all the digging has been completed and the late Potatoes planted, to have something, either growing or just sown or planted, in every part of the allotment. If the holder was fortunate enough to commence early and had sown a row of Peas before the second spell of frost, these will soon be showing above the ground, so little ridges of soil should be drawn up on each side of the row to give slight protection from cold winds and so hurry on the crop. If Pea-sticks can be obtained, these dwarf early sorts will repay for staking, for they grow quicker and pod earlier if given support and shelter. The warm side of the staked Peas provides a splendid place for a couple of rows of early Cauliflowers.

Markers.—The market grower makes greater use of "markers" than does the private gardener or the allotment holder. When sowing such relatively slow germinating seeds as those of Parsnip, Carrot and Onion, he sows with them a proportion of Radish seeds, and these are the "markers." The objects are twofold, but chiefly, as the term suggests, to mark the rows so that he may work the hoe at the earliest possible time. A second, but still important reason, is to have a light but saleable crop while waiting for the more slowly maturing vegetable. The use of a "marker" is especially important where such quick germinating weeds as Groundsel and Chickweed are prevalent, for these would otherwise become firmly rooted long before the hoe could be plied between the seed rows. As nearly all the new allotments are certain to be amply supplied with weed seeds, it will be wise to adopt the market grower's plan of sowing "markers," and the Radish, which germinates as soon as the weeds, will mark the positions of the rows and also furnish useful roots.

Thinning the Seedlings.—All seedling vegetables that are in their permanent places should be thinned as early as possible, so as to ensure strong, sturdy plants being left. The distances apart which should be allowed for the plants must be regulated by their kind. Onions, which are often thinned too severely, may be left 3 inches apart. The bulbs will then at maturity "sit on the ground," ripen much better, and yield a far heavier crop than when the plants are thinned to 6 inches apart in the hope of growing specially fine examples. This temptation to grow exhibition vegetables should be resisted just now, when all our efforts should be directed towards growing as much good produce as possible. If Carrots are grown in small successional rows to obtain small, tender roots throughout the season, and the sowing has been made thinly, very little thinning will be required, but when sown in bulk the seedlings will need 5 inches each. Parsnips at maturity require from 7 inches to 9 inches, the latter distance for roots on strong land while Beet similarly should be allowed from 6 inches to 8 inches.

Edible Peas, unfortunately, are rarely thinned, it being usual to allow all the seedlings that appear to remain, and as this crop is often sown far too thickly, an undesired congestion results. If the worker would sow Pea seeds in a double row, allowing 1 foot between the lines and set the seeds 4 inches apart, and then when the seedlings are a couple of inches high thin to not less than 9 inches, greatly improved crops would be the result. A good rule to observe when thinning, if doubtful of the space to allow the seedlings, is to imagine a fully developed plant of each kind and thin accordingly.

READY FOR THEIR FIRST POTTING.

EARLY TOMATOES IN POTS, BOXES & BORDERS

CULTIVATORS who are not able to command a moderate heat in their glass structures should not attempt the raising of Tomato plants too early. Plants checked while in their seedling and young plant stages do not give such good results as those grown unchecked throughout.

TOMATO SEEDLINGS READY FOR PRICKING OFF.

The beginner often makes another mistake in sowing the seeds too thickly. Instead of using a flower-pot or one small box, sow the seeds an inch apart in several larger boxes. The latter should be about 4 inches deep and filled with a compost of fibrous loam, leaf-soil and sand, with a layer of well-rotted manure at the bottom of the box. Leave the compost in a rather lumpy state, as the resultant seedlings will not damp off as readily in this as in a very fine compost. If the boxes are covered with loose squares of glass, these must be removed directly the first seedling comes through the soil; there must be no undue weakening of the seedlings. Water will not be needed for several days after the seedlings appear if the compost when used is in a medium state of moisture.

Pot off the young plants singly in 3-inch pots before they become overcrowded in the seedling boxes, and again use a rather lumpy compost in which some wood-ashes have been mixed at the rate of a 6-inch potful to a bushel of soil. Rich, fibrous loam should form the principal part of the compost in which the plants are to be fruited. Once more add the wood-ashes and a similar quantity of burnt soil, with a 5-inch potful of soot to each bushel of soil. The wood-ashes and burnt soil have a beneficial effect on the fruits. The latter colour more perfectly, fewer having that objectionable yellow patch near the footstalk.

At first the pots and boxes should be three parts filled with the prepared soil. In due course surface mulches must be given, the soil being well firmed. When putting out Tomato plants in borders where there is a great bulk of soil, be sure that the rooting medium is well firmed. G. G.

LETTUCE: PLANTED *v.* SOWN.

FROM April to July last year the total rainfall was only 5.98 inches. This fell on but thirty-three days out of the 122 of the four months. Such a shortage of moisture left the soil at times very dry, rendering the raising of crops like Lettuce a matter of difficulty and entailing much labour in watering where transplanting such crops as Lettuce was practised. A saving of labour was effected, with much better results, where the plants were allowed to grow to perfection in the seed drills. Perhaps a trifle more seed was used, but that is a small matter compared with the labour of transplanting and daily watering afterwards until the plants become established. Instead of sowing the seed in beds, draw drills a foot apart in deeply dug ground and well soak them before sowing the seed thinly. This hastens germination much more effectively than the continuous

watering after sowing. Directly the plants are large enough to handle, thin out the weaker ones and go over them a second time, finally setting them out at the proper distance. Repeated stirring of the soil between the rows with a Dutch hoe will accelerate growth considerably. A little practice will teach the inexperienced how thickly to sow the seed so that but a small quantity will be wasted. E. M.

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATES.

Cypripedium Eurybiades The Baron.—We had but the veriest glimpse of this magnificent variety on the morning of the exhibition, its early removal subsequently precluding our describing it in detail. Of giant form and sturdy build, its outstanding feature was undoubtedly the great size and substance of its nearly circular dorsal sepal, which is copiously spotted with crimson. From Mr. J. E. Shiel, Englefield Green.

Saxifraga Burseriana Gloria.—It is ten years since Mr. Farrer exhibited this incomparable form, which easily gained an award of merit. Now, having stood the test of a decade and, meanwhile, proved itself the most popular of the Burser Saxifrages, it has been deservedly advanced to the higher award of a first-class certificate. The glorious example of it—a panful 10 inches in diameter—with several hundreds of its pure white blossoms almost the size of a florin, was irresistible and a great attraction. From the Society's Gardens, Wisley.

AWARDS OF MERIT.

Brasso-Cattleya Lady Jellicoe.—A bigeneric hybrid of handsome proportions and great beauty. The sepals and petals are pure white, the latter exceptionally large and broadly ovate. The handsomely formed lip is also white, save for a feathered blotch of reddish purple on the lower half of the frontal lobe and a strong suffusion of yellow in the throat; hence a variety of merit and distinction. Exhibited by Messrs. Armstrong and Brown, Tunbridge Wells.

Odontioda St. Quentin.—A very beautiful form whose golden sepals and petals are copiously blotched with reddish chestnut. From Messrs. Flory and Black, Slough.

Sophro-Lælio-Cattleya Meuse var. General Nivelle.—A very handsome trigeneric hybrid having wine-coloured sepals and petals and ruby red lip flushed with crimson.

Cattleya Enid var. Silver Queen.—The sepals and petals are pure white, the beautifully fringed lip, blotched with purple, being touched with yellow in the throat. It is good and distinct. These two were from Messrs. Charlesworth and Co., Hayward's Heath.

Narcissus Bonaparte.—The award in this case was given for adaptability to pot culture, which the well-grown, freely flowered group of it amply demonstrated. A foot or so high, of sturdy habit and good colour, it is obviously eminently fitted for greenhouse cultivation. Though unclassed in the Royal Horticultural Society's list of Daffodils, it is apparently, of the large-flowered incomparabilis set with yellow perianth segments and deeper yellow crown. A useful variety in every way. Shown by Messrs. Barr and Sons, Covent Garden, W.C.

The foregoing were exhibited before the Royal Horticultural Society on March 27, when the awards were made.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broccoli and Winter Greens should now be sown thinly in rows on well-prepared, enriched soil. The difference between this and an impoverished soil is displayed in the type of plant obtained. In the former the plants grow vigorously and make headway from the start, whereas the slowly grown plants—the result of poor soil—are weak and puny and cannot succeed like the others. Sow in drills, covering the seed with wood-ashes as a means of preventing an attack of Turnip fly. Directly the plants show through the ground, stir the soil between the rows with the hoe as a means of hastening growth and warding off insect pests, and also as a substitute for watering in the event of dry weather.

Brussels Sprouts.—The early grown plants from seed sown under glass should be transferred to their permanent quarters with the least possible check, planting with a trowel and lifting the plants with soil attached. As Brussels Sprouts are by far the most important green winter vegetable, good preparation should be made to achieve the best results. Deeply dug, heavily manured soil and plenty of space for development are the salient points. The rows should be 3 feet apart, and allow 2½ feet between the plants. Make them firm in the soil; if this is at all dry, water in at once, and keep the soil about them stirred with the hoe. An occasional spraying of the foliage if the weather is dry in the evening will accelerate growth considerably.

Peas.—Sow maincrop varieties, such as Duke of Albany, Gradus, &c., every fortnight to keep up a succession. Sow between rows of early or dwarf-growing second-early sorts instead of occupying more ground by sowing separately. It is a mistake to sow Peas thickly; robust growth is the best to give more pods and larger Peas.

Spinach.—Sow fortnightly in rows between rows of Peas, or in a plot, 15 inches apart, to maintain a succession.

Potatoes.—Put out the main batch as fast as possible, allowing plenty of space between the rows, especially for vigorous-growing late sorts. A free development of haulm and leaf is all in favour of a full crop and less disease. Where artificial manure is required, owing to a scarcity of animal manure, superphosphate, five parts, sulphate of ammonia, two parts; and bone-meal three parts, should be sprinkled in the drills along with the sets at planting-time.

Vegetables Under Glass.

Cabbages.—Plants of the early hearting varieties raised under glass will indeed be a boon this season, as so many in the open were killed by the severe weather. Well harden the plants in cold frames before putting them out, or the cold east winds so often experienced in April will check the growth when put out.

Broad Beans which are a foot high in pots and boxes should receive liquid manure to hasten growth.

Vegetable Marrows in 3-inch pots should be shifted into those 10 inches in diameter, in which they will quickly give early fruits.

The Flower Garden.

Dahlias of the free-flowering Cactus and Pompon types are useful for cutting, especially in September. Cuttings 3 inches long, taken from the base of the old roots with a heel if possible, inserted singly in 2½-inch pots in sandy soil and plunged in a brisk bottom-heat under a hand-light, quickly grow into nice plants if they are potted on into 4-inch pots and given a position near the glass to induce sturdy growth.

Annuals, as Asters, Zinnias, Salpiglossis, &c. should be pricked out in boxes or frames and be grown on sturdily.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

THE POPULAR SAXIFRAGA BURSERIANA GLORIA.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas.—Plant out Peas which have been raised in boxes or pots, taking care that the roots receive no damage in the process. Stake in the meantime with bushy twigs of Spruce, which will act not only as a support, but as a shelter from frost or cutting winds.

Cabbages which have been raised in boxes to supplement the autumn-planted crop should now be planted out. A dusting of soot or lime round each plant will ward off the ravages of slugs at this time.

French Beans.—Where there is plenty of accommodation under glass, little difficulty will be found in keeping up a good supply of these.

Very little fire-heat will now be required. Sow a quantity in small pots for planting out in cool frames; these will give good returns until pickings can be had from plants in the open. Canadian Wonder and Sutton's Superlative are excellent sorts for this purpose.

Carrots.—Main crops may now be sown, giving preference to a piece of good ground not recently manured. Early English Horn may be succeeded by standard and reliable vareties, such as St. Valerie, Altrincham Improved, and Austin's Exhibition.

Plants Under Glass.

The Conservatory.—A great many forced plants and bulbs will now be past flowering, and these should at once be cleared away and save congestion in other quarters. The space thus provided will be welcome, as batches of Cineraria stellata and Schizanthus will now be brought in to keep up the display, while Primula obconica and other plants already in flower will be rearranged and given occasional waterings with weak soot-water. This is a valuable stimulant and does not cause the unpleasant odour usually associated with other manures. As the sun-heat increases, it is possible to ventilate more freely, while less fire is now required.

Perpetual-Flowering Carnations.—Plants raised from cuttings early in January should now be moved into 4-inch pots. Older plants that have been flowering during autumn and winter may now be fed with suitable stimulants, when they will still continue to produce many fine flowers. Occasional syringings with an approved insecticide will keep down red spider and other insect pests.

Top-Dressing.—Plants which are not over-robust can often be improved in health and vigour if they are judiciously top-dressed with a suitable compost. If the plants are in pots, the surface soil should be pricked over with a small-pointed iron dibber and the exhausted soil removed, replacing with the prepared soil. Plants in borders may be treated in a similar manner.

The Flower Garden.

Clematises.—Among hardy climbers Clematises are deservedly popular, and now is a most suitable time to plant. They like a rich, well-prepared soil, with a sprinkling of lime rubble added to it, and may with advantage be used for covering walls, but look best when rambling over an old tree trunk or trained on a pergola or arch. The Jackmanii varieties are delightful, but I think pride of place must be given to the Lanuginosa section. From July to October they produce lovely blooms with a great variety of colour. With us C. l. Fairy Queen is greatly admired for its enormous size of flower and beautiful colours. This type flowers on the previous season's wood, so should just be thinned and the young growths tied in.

The Rock Garden should now be gone over and thoroughly cleaned, removing all weeds and withered leaves, afterwards loosening the surface of the soil with a small hand-fork. A surface-dressing of good soil should then be given, as frequently the roots of many plants are washed bare by the winter's rains. Make everything tidy, as many early flowers are bursting into bloom, and their beauty will be greatly enhanced if their environment is clean.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

TRADE NOTE

SWEET PEAS AND TOMATOES.

THE time has arrived for planting out a few Sweet Peas, but owing to the great demand for space in frames in the great rush for raising vegetable seedlings, very few have ever given a thought to Sweet Peas. Life is too sad for words, but what would a summer be without a few Sweet Peas to gladden our hearts? We are pleased to see that Messrs. Bucks of Ipswich are offering a good selection of Sweet Pea plants, as well as Tomatoes, both seeds and seedlings, for which they are so widely known.

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

FRAGRANT ROSES (*Maida Vale*).—Yes; Mrs. George Norwood, Ophelia, Dora Van Tets and Pharisaër are fragrant varieties. We should not term Mme. Segond Weber or Medea really fragrant. Château de Clos Vougeot is the darkest Rose among the Hybrid Teas that is very fragrant. Admiral Ward is very sweet, but not quite so dark. Edward Mawley, too, has a rich perfume. As regards your previous query, few of the Tea Roses are fragrant beyond having a little Tea-like perfume. The following are very sweet: Mrs. Foley Hobbs, Miss A. de Rothschild, Beauté Inconstante, Mme. Cusin, Mme. de Watteville, Souvenir d'un Ami and Souvenir de S. A. Prince, and all these grow well. A good crimson Tea Rose is Souvenir de Thérèse Levet. Many of the Hybrid Teas are equally as free flowering as the Teas; for instance, Betty, General Macarthur, Richmond, Prince de Bulgarie, and Mme. Abel Chatenay.

THE GREENHOUSE.

PERPETUAL CARNATIONS NORA WEST AND BEDFORD BELLE (*F. N.*).—The Carnations you refer to are both recent novelties. Nora West is a seedling from Winsor, of which it partakes a great deal in form and habit. Winsor, in its prime, was the beau-ideal of the market-grower, and Nora West bids fair to win a leading place among commercial varieties. It is unquestionably one of the finest of all British-raised Perpetual Carnations. It was raised by Mr. George West, Gables Nursery, Datchet, Bucks, and has been honoured by the Perpetual-Flowering Carnation Society with both an award of merit and a first-class certificate, the latter a much coveted but rarely given award. Bedford Belle, raised by Laxton Brothers, Bedford, is a deeper shade of salmon pink, but on the small side. It is strongly scented and a good grower, but is hardly free enough in winter to make it suitable for market purposes. For the amateur, however, it should prove both pleasing and useful, although it cannot be termed an outstanding variety.

KITCHEN GARDEN.

POTATOES FOR INSPECTION (*W. H.*).—The scabby spots on the Potatoes are partly due to the attack of the organism Actinomyces chromogenus, causing what is generally called "scab," a disease which does no real harm to the crop. Some of the cracking of the skin has arisen from an attempt to swell after the growing season had ceased through late rains.

THE FAILURE OF MARROW PLANTS (*L. F. B.*).—There must have been something in the soil the roots did not like; perhaps wireworms destroying the roots. One of the best places to plant a Marrow plant is on the top of a heap of leaves gathered the previous autumn. It will revel in this and produce splendid crops. An old spent hotbed will be found equally good. If you must provide a special heap for them, tip up half a cartload of soil and the same of manure in any odd corner where there is some shelter and plenty of sunshine, and you cannot help but succeed. Plant out at the end of May, protect from frost, and give water daily in dry weather until the roots have taken a good hold of the soil. The plants will take care of themselves afterwards, so long as they are given an occasional good soaking of water in dry weather.

AMERICAN SWEET CORN.—I am so glad that Celeriac and Salsify have been mentioned in your columns lately; I only wish they were more widely known and grown. Their culture is of the simplest, and they grow in any soil and stand all sorts of weather. A few weeks ago we were digging them with a pick on account of the frozen condition of the ground, and they seemed none the worse. They are excellent in soup or stews and make delicious fritters, cakes, scallops, *gratin* or *fricassée* with bacon. I should like to know if American Sweet Corn can be grown satisfactorily in this country; it seems such a pity we cannot make more of it. I should also like to know if it is a good time to start bee-keeping, and if so, perhaps someone will kindly give a few hints as to their management, &c. Has it occurred to anyone (mothers of families excepted) that the newspapers, in booming "spadework," are creating an appetite and a half in each new recruit?—M. D. H.
[We are much obliged by your commendations on the growing of Celeriac and Salsify which has recently appeared in THE GARDEN, and quite agree that Celeriac more especially is a most valuable root much neglected. With regard to the American Sweet Corn, we are not familiar with this under this cognomen. The American Maize or Indian Corn is now grown to a considerable extent in this country as a vegetable, and much appreciated by many. The young green, fresh cobs, cut before the seeds begin to harden, are delicious. The seeds should be sown about the middle of April in a greenhouse or frame (one seed in a 4-inch pot), and the same planted out 1 foot apart in trenches prepared as for Celery at the end of May or early in June. They should be protected from frost for a week or two after planting, and receive copious applications of water in dry, warm weather. We believe this is an excellent time to commence bee-keeping. Be sure to get a hive of standard make and size.—ED.]

FRUIT GARDEN.

MULCHING FRUIT TREE BORDERS (*D. H. S. S.*).—The season is late this year, and we think it is well to delay applying mulches of manure to the roots of wall trees until the soil has become warmer and the roots of the trees more active. Applying them now would only tend to delay this process. It is an excellent practice, but its application had better be deferred until the middle of April. As regards the trees which have not yet been touched, the best manure you can apply is bone-meal. Spread it on the surface of the ground over the roots of the trees at the rate of from 2lb. to 4lb., according to the age of the trees, and then fork it lightly into the ground 4 inches deep.

BIG-BUD ON BLACK CURRANTS (*Reader*).—The Black Currants are badly attacked by big-bud, due to the mite Eriophyes ribes. This pest is very troublesome to deal with, and it would be well to cut down every alternate bush at once to the ground and pick off from the remainder as many of the "big buds" as possible, burning them. In the autumn cut down the remaining bushes, and depend upon the young shoots made this season or those cut down now for fruit next year. Then cut these down and so on, cutting down the bushes which have fruited this season and depending on those cut down the season before for fruit. In this way the pest can usually be kept within bounds. Unfortunately for attempts to exterminate it, it attacks Red Currants and Gooseberries as well as Black Currants.

MISCELLANEOUS.

TORTOISES IN GARDENS (*E. M. H.*).—Mr. E. A. Bowles replies to your enquiries: "Gilbert White kept a tortoise in his garden. I should be sorry to have one loose in mine. The ordinary Greek tortoise sold by zoological dealers feeds on the young growths of plants, and is fond of Lettuces, Beans, &c. It would be best to keep the tortoises in some enclosed place that they could not escape from to help themselves to the produce of the garden, as they are indiscriminating as to the value of the plants they devour and those they break down in reaching them. Fresh leaves of Lettuce or Cabbage, or Apples, should be given to them if they are kept where they cannot select their own food. It is better to prevent worms getting into pots than to have to eject them. Perforated zinc discs, placed over the hole in the bottom of the pot, are excellent for the former purpose. Watering with a weak solution of carbonate of ammonia, or mustard and water, will bring the worms to the surface."

LEGAL POINT.

OVERHANGING BRANCHES.—I have been a tenant of a suburban house with garden for the last ten months. A tree which has apparently been allowed to grow for some years without lopping overhangs my neighbour's garden, and he has requested me to have the portion overhanging his garden cut away. Am I compelled to accede to his request, or is it sufficient for me to give him permission to cut away what he wants? Has the landlord anything to do with the matter? He was the last occupant of the house, and I understand repeatedly promised my neighbour to have the matter seen to.—[Our correspondent, in order to keep on friendly terms with his neighbour, should comply with the request made of him to cut back the boughs which overhang his neighbour's garden. If he does not do this, his neighbour is quite entitled to cut them back. The fact of the landlord having occupied the house previously has nothing to do with the matter.—ED.]

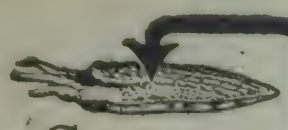
SOCIETIES

EAST ANGLIAN HORTICULTURAL CLUB.

AT the monthly meeting of this club, held in Norwich on March 14, the president, Mr. Herbert Perry, gave a short lecture upon Beans and Peas. Briefly touching upon their introduction, he dealt with the main points of their cultivation, concluding his remarks with a special request that no seeds should be wasted by sowing too thickly and that all available land should be planted with these useful crops for garnering as dry foodstuffs for next winter's use. A keen discussion followed. A feature of the meeting was the fine array of exceptionally well grown plants of Cyclamen brought by Mr. F. J. Endersby, gardener to J. H. Gurney, Esq., Keswick Hall, Norwich. To these the members unanimously voted a card of cultural commendation. Other exhibits from Mr. W. Shoesmith, Mr. G. Moore and Mr. E. J. Foulger were full of interest and merit.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.*

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 10s. 10d.; Foreign, 18s.*



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ORPINGTON FOWLS and DUCKS

are now helping all Smallholders and Poultry Keepers to increase

THE HOME PRODUCTION OF FOOD

by supplying them with

RELIABLE EGGS FOR HATCHING

from the hardiest, healthiest stock in this country which have proved to be excellent layers right through the severe weather experienced during December and January. They have been despatching thousands of Eggs weekly, which have produced large numbers of sturdy chickens, the pullets of which will make layers of at least 200 eggs in each year, while the Cockerels will be killed for food at an early age.

Booked orders having been executed, they can now despatch the following eggs at once :—

WHITE ORPINGTONS
SPECKLED SUSSEX
WHITE LEGHORNS
BLACK LEGHORNS and
HOUDANS

From pure stock of guaranteed 200 to 289 Eggs each in the year
6d. each.

From selected pens of birds of these wonderful laying strains
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The stock from these will lay just as well as from the cheaper pens, but be worth more from the sales point of view as the birds will be more perfect in colour.

And are booking orders for supplying in rotation for :

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SALMON FAVEROLLES
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WHITE WYANDOTTES

FIRST CROSS.—Faverolle-Sussex, 6d. each.—This is the finest cross for the production of heavy table birds in a short time, while the pullets make excellent layers.

All eggs are despatched on the day they are laid, and **not** less than twelve eggs supplied, and no reduction for large numbers.

Profitable Poultry Keeping is only possible when Eggs are forthcoming, and many who have been keeping fowls with the definite purpose of producing eggs have had reason to be dissatisfied with the returns during the past few months, and now that all food prices are up, it is a serious matter when the fowls give no returns. Mongrels and poorly bred stock can be made profitable, and the returns from pedigree stock greatly increased, provided that the food which will develop their eggs is given, and the mistake made by the majority of food manufacturers is to provide starchy diet which fattens the fowls and prevents egg production. It is as the result of their knowledge possessed as to food values which

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have prepared their

IDEAL MEAL

and they use nothing but this and oats to feed their many thousands of birds daily. This is the meal which is different to all others on the market, as it is non-starchy and non fattening, and produces eggs in abundance and promotes rosy healthiness in the fowls fed on it. It is now made in two forms :—

(1) **THE ORIGINAL IDEAL**
used in the proportion of one part to several of middlings ; and

(2) **THE COMPLETE IDEAL**
which requires no addition of meals, and is being successfully used as a Dry Mash.

The price of the Ideal Meal in both forms is : Per cwt., **21/-** per half-cwt., **11/-** ; per quarter-cwt., **6/-** ; carriage paid in England and Wales ; and **1/-** per cwt. less than these prices for Scotland, Ireland, and the Channel Isles, carriage forward.

For a few fowls a **6/-** bag, or for twenty or more one at **11/-** will prove the value of this food.

Everyone who has fowls which are not laying should—in their own interests—try a bag of **Ideal Meal** without delay, then they will be able to see that they have not before bought THE RIGHT FOOD, although they have paid a good price for it.

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of the Orpingtons and so secure the original and tested layers which are quoted all over the world as Cook's strains ; all the **Ideal Meal, must** address their letters to their ONLY ADDRESS IN ENGLAND :—

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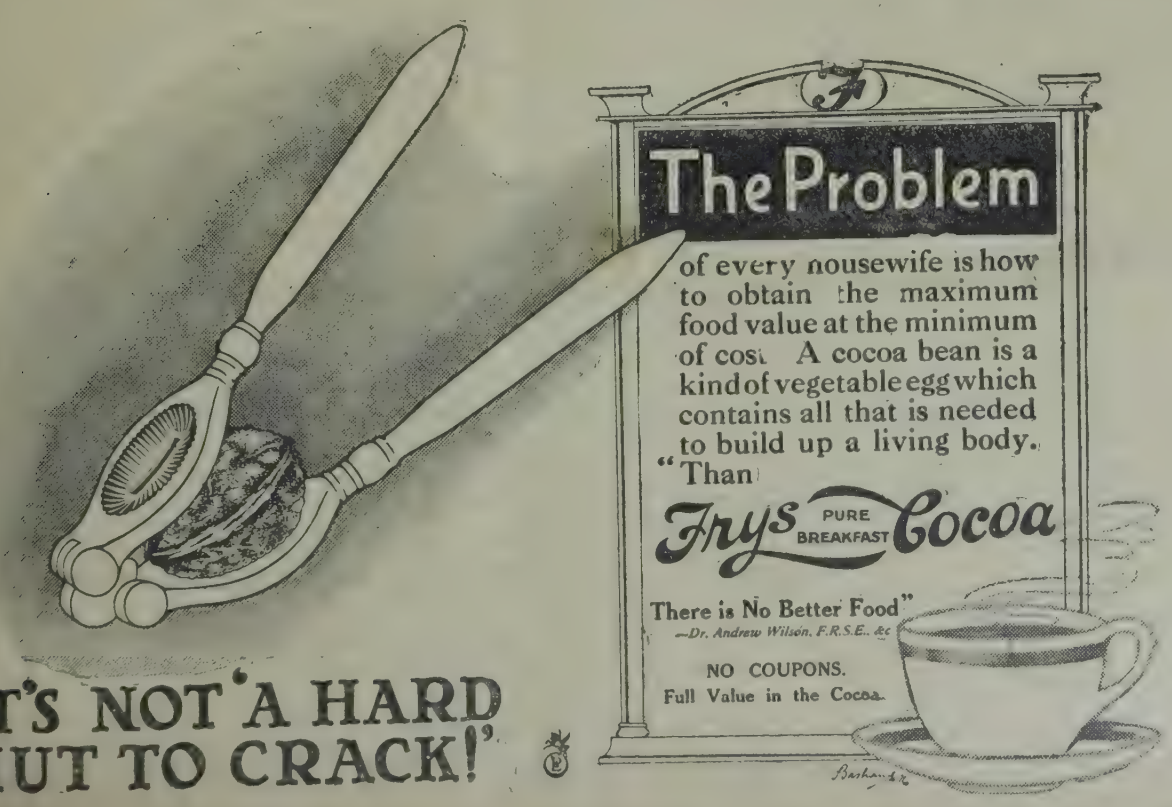
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of every housewife is how to obtain the maximum food value at the minimum of cost. A cocoa bean is a kind of vegetable egg which contains all that is needed to build up a living body. "Than
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There is No Better Food"
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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

INTERIOR ARRANGEMENT OF HOUSES

BEFORE continuing my description of the internal arrangement of an intensive house I will refer briefly to the illustration on this page. It shows to a nicety the planning of small houses and runs of which I have already written in my weekly notes in connection with breeding stock. This small-house system is admirable for accommodating the parent birds which are to produce the pullets for the large intensive laying structures.

Nest-Boxes, &c.—Outside or inside nest-boxes can be arranged. If the latter, they can be fitted directly under the drop-board, with the entrances facing the back of the house. When so arranged they appeal to the hens as snug "retreats," and if the back of each nest is hinged, the owner can remove the eggs by merely opening the nest-box "door," so to speak. If the nests appear too dark, a small glass panel can be fitted in the hinged back of each. By fitting the laying-boxes under the drop-board, no ground-space is thrown away, since the birds can pass underneath the bottom of the range of nests.

The Dust-Bath.—An intensive poultry-house is all the better if a dust-bath is provided therein. The layers will certainly make full use of the dry litter for cleaning themselves, but the main object of the poultry-keeper should be to provide the birds with a varied routine. Separate dusting receptacles are therefore most useful in affording the laying stock "something to do." An ordinary wooden box will serve the purpose, and a deep one is to be preferred. Carrying out the principle of allowing all the ground-space possible for scratching purposes, the box will be mounted on four wooden supports—one at each corner. In the front a fairly wide piece of board will be fitted to act as a "step" board, on to which the birds can jump prior to entering the dust-bath. Ashes can be used as the dusting material, but they should be perfectly dry, and so kept. The ashes should be constantly renewed, and so that the birds cannot scratch the material out of the box the latter is deep and not allowed to become more than half filled. The dust-bath is an excellent feather-cleaning medium, and the owner can considerably help matters by regularly sprinkling Izal powder into the ashes. This precaution will rid the birds of insects.

Choice of Litter.—As regards litter for intensive houses, the poultry-keeper can select from the following: peat-moss, cedar litter, dried leaves, and straw. In the autumn it is a good plan to collect a nice supply of dry leaves and store the same under cover for use during the winter. Straw makes an excellent scratching material, and it can be cut into short lengths or placed in the house as it is. The latter plan is perhaps the better, as the layers have the occupation and exercise accruing from the "chaffing" up of the straw, which duties they perform very cleverly, and which they seem to enjoy. Granulated peat-moss and cedar shavings also make excellent scratching materials for intensive-house floors.

Care of Litter.—As a bottom litter I advise dry sand 2 inches or 3 inches deep, and as a top-dressing the straw or other material to a depth of from 6 inches to 9 inches. Sea-sand is useless, as it always retains the damp. My idea of using a bottom layer of sand is that every time the birds scratch they "riddle" or clean the straw, or main, litter. Properly cared for, litter will last for many months. One of the chief pointers is to keep the material perfectly dry, as dampness causes the ammonia to rise from the droppings. Once a month the litter can be put through a sieve and large pieces removed, while every month I like to spray lightly the litter, perches, drop-boards, nests and the walls above and below the drop-board with a very weak solution of Izal fluid and water. Where wooden floors are in use, once a year they should be tarred (top and bottom)—creosote can be used if desired for the top—as this will preserve the litter. As the straw becomes broken up, a fresh supply can be added for the birds to work in. If dropping-boards are in use, the litter can be made to last for six months, although many intensivists renew the scratching material only once in twelve months. Quite a good plan is to have outside each house a boot-scraper, so that the poultry-keeper can remove any mud from his boots prior to entering the structure. The litter will not then become soiled.

Water Receptacles.—It has always been a difficult matter to arrange the drinking vessels so that the fowls could not scratch the litter into them or upset the receptacles. While these two points have to be guarded against, the owner, too, must not rob the layers of any floor-space. The old method was to place the receptacles on a table inside the house; but this has its drawbacks. Far the best plan is to place the drinking vessel outside the house, the birds gaining access to the water through spars arranged on the inside of the building.

Food-Troughs.—If a loose feeding-trough is used, it should be so made that it can be hung on the wall when not in use. The best plan is to design some arrangement where the trough is placed outside the house and the birds obtain their food by placing their heads through a sparred aperture on the inside. The water and food receptacles can be placed outside the house in a box constructed after the manner of outdoor nest-boxes, with hinged lid. Three small hoppers or receptacles for the grit, shell and charcoal, respectively, complete the internal arrangements of an intensive house, and these can be hung on the wall a little above the ground.

WELL-ARRANGED BREEDING PENS.

Some of the 600 breeding pens on Messrs. William H. Cook, Limited's, model poultry farm at Orpington, Kent. The weekly average of visitors to this farm, which is only 12 miles from London, is 200.

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Mr. W. Powell-Owen, The Garden Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of The Garden, 20, Tavistock Street, Strand, W.C.

PRACTICAL POULTRY POINTERS

FEEDING

Fresh bones ground in a bone-cutting machine provide an excellent egg-producing food, but must not be given to excess.

* * *

Never give fowls long pieces of grass, or crop troubles will follow.

* * *

Cut up into fine pieces such foods as bacon rind, cheese rind, house-scraps, grass, &c.

* * *

Give soft food in troughs, and keep the latter regularly scoured out.

EGGS

Ducks lay their eggs in the early morning, and should not be allowed out until they have laid.

* * *

Dip a finger in vinegar and pass it round the centre of an egg just before it is due to hatch. The treatment will help the chick out.

* * *

If pricked with a needle or dipped in boiling water, eggs can be rendered unhatchable.

* * *

Wear gloves when collecting eggs, in order not to rob the latter of their "bloom."

* * *

Eggs travel best when wrapped singly in a screw of paper and hay is used as the packing material.

EARLY TO MARKET means extra profit

UVECO

POULTRY FOOD

will bring big-framed, plump, 3 to 3½ lb. birds to market in nine weeks from shell. The chicks digest every particle of it, and every particle nourishes. Start feeding it to-day and note how rapidly the brood will improve.

Ask your dealer for a bag to-day; if he does not stock, write for a

FREE SAMPLE

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FIRST CROSS FAVEROLLES-ORPINGTONS
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ULLETS, laying, 5/- each; 60/- doz. List, breeds, free. Special offer: Six selected Laying Pullets and ock, 35/-.—VARNEY, Stratford, Essex.

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Note the low, inclusive prices, compare the quality, then watch the excellent results obtained.

These two foods have been blended, tried and proved unequalled by THE LARGEST BREEDERS AND LEADING POULTRY EXPERTS IN ENGLAND.

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They will make Poultry-keeping a pleasure, and, being the cheapest on the market, will help you to save money.

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A well-balanced food, which can be given without the addition of any other Meals, as it is a perfect mixture in itself.

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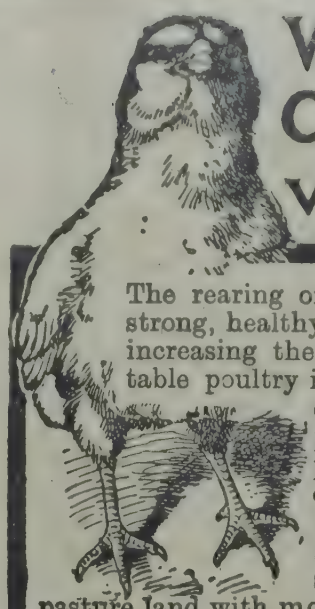

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—Sir J. CRICHTON-BROWNE, F.R.S.

Use Freely in Hen Roosts, Pigeon Cotes, Aviaries, etc.

Against Influenza.—"Give daily to all the birds Izal in the soft food. One liquid ounce of Izal should be added to each eight gallons of liquid used for mixing the soft food. The result has been so beneficial that I think it should be known."

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Against "The Gapes."—"Of the advertised disinfectants Izal is the best, and the only one which I have found capable of penetrating the chitinous coating of gapeworm ova."

IZAL POWDER dusted among the feathers rids the birds of insect pests.

IZAL FLUID, 3/6 ½-gal., 6/6 per gal. **IZAL POWDER,** 2/6 per 14lb. bag, 6/6 per 50lb. keg.

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LIFEBUOY SOAP.

"SONS OF THE SEA," they love to feel the moisture-laden west wind upon their tanned cheeks. Its suggestion of unbounded freedom is as the breath of life to them.

For this reason they appreciate the fresh, cleansing lather and the healthy odour of Lifebuoy Soap. After a long watch, nothing invigorates Jack so much as a splash with Lifebuoy Soap, and he appears on duty again cheery and alert, and spick and span as the men of the navy always are.

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A ROYAL DISINFECTANT.

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FOR GARDEN, ORCHARD, WOODLAND
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THE GARDEN.

No. 2369.—Vol. LXXXI. April 14, 1917.

NOTES OF THE WEEK

By fixing five Potatoless days per week in the new rules regulating the supply of public meals which come into force on April 15, Lord Devonport entertains the hope that supplies, which are scanty, will be left to poor people who most require them. The obvious duty of all who own gardens is to increase the Potato crop this year to prevent any possible chance of a shortage next winter. It is not sufficient that owners of large gardens should grow for their own needs only. We must all take a broader outlook upon the situation. It was a sin to have missed opportunities last year. Let everyone be up and doing, so that no stone is left unturned to grow the maximum of vegetable crops in 1917.

Large Seed Potatoes.—Seed Potatoes of some of the most popular Scotch varieties, such as Arran Chief and Great Scot, have been sold "as grown." This means that many of the tubers are much too large for seed. In most cases large Potatoes should be cut before planting. Not only is the cost of seed much enhanced when large tubers are planted whole, but the resulting crop is likely to consist of many undersized Potatoes.

Cutting Seed Potatoes.—Some varieties, such as Up-to-Date and Abundance, stand cutting well; others, such as King Edward VII. and Ninety-fold, may be much injured by cutting; others again, such as Arran Chief, are uncertain. Cut tubers are always less safe for planting in dry soils than in moist loams, and are less satisfactory in a dry than in a moist spring, but every kind of Potato can be cut and successfully used under all ordinary conditions if carefully treated. Two points must receive attention. The grower should make certain that an "eye" or bud capable of growth is present in the set (if the Potatoes have been sprouted there is no difficulty in deciding as to this point), and the cut surfaces should be sprinkled with slaked lime, which forms a crust and prevents the Potato drying after it has been cut. This is especially necessary if there is any likelihood of delay between cutting and planting.

The Pasque-Flower. — Probably very few readers have ever seen the Pasque-flower growing wild in this country, but it is one of the most beautiful plants in the British flora both in flower and leafage. Our illustration shows the charming white variety under cultivation.

ANEMONE PULSATILLA ALBA.
The white variety of our native Pasque-flower.

Sugar Beet.—The recent reference to the above recalls the fact that at the beginning of the war considerable alarm was felt in the Western United States of America over the difficulty of getting a supply of seed from Germany. It was, however, quickly discovered that while Germany handled the seed supply, the greater part of it was grown in Russia. This is only another instance of Germany getting the credit for seeds she never grew. The American buyers, on discovering the fact, were very soon dealing direct with the Russian growers, one dealer crossing the ocean in order to book up 3,000,000lb. of seed. During the past few months America succeeded in importing 18,000,000lb. of seed without any losses, and it is a safe hazard that the American buyers will in the future continue to buy their Sugar Beet seed from Russia without any intermediate German aid. Incidentally, considerable quantities of the ordinary garden Beet are also grown for seed in Russia, yet how many of us have looked upon Russia as being a cold, useless country.

General Work.—The month of April is a busy time in the garden. So many details have to be carried out that a method must be adopted and strictly adhered to. The timely thinning of seedling plants is one that should not be neglected. When plants like Lettuces and Turnips are allowed to remain thick in the rows for too long a time they become drawn up, weakly, and can never grow into such sturdy plants as if they were given space earlier. Stirring the soil among crops during dry weather is important, as it admits air to the roots and conserves moisture, two items of great importance.

The Cabbage Patch.—Most gardeners pride themselves on their Spring Cabbage bed, and rightly so. Unfortunately, Cabbage plants have suffered terribly by the severe weather, and, in addition, the wood-pigeons have played great havoc with the more forward plants. Even in quite small gardens the hearts are completely picked out by these troublesome birds. We make it a practice to prick out a good stock of spare plants in a temporary shelter in late autumn, and, this year especially, they will be of great service. In many cases growers will have to reduce their beds very considerably by taking up part of the rows to make the others good. Nothing benefits this crop more than continuous flat hoeings—indeed, it can hardly be done too often when the weather is suitable — and when the plants are in active growth apply a little artificial manure, such as sulphate of ammonia, about once in ten days.

Root Nodules on Alnus glutinosa.—At a recent meeting of the Scientific Committee of the Royal Horticultural Society, Mr. J. Fraser showed a series of seedlings of the common Alder (Alnus glutinosa) which he had found growing along the Thames and in other places. He drew attention to the nodules on their roots, which, he pointed out, were inhabited by organisms, according to Hillier, which enabled the Alder to obtain nitrogen from the air much in the same way as does Pseudomonao radicicola in the case of leguminous plants.

**** Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade have decided to prohibit the return of unsold copies of any journal to publishers from April 30, and in consequence* THE GARDEN *will be obtainable after that date* ONLY *if ordered beforehand*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Potato Substitutes.—Among all the suggestions offered I have seen no mention made of that excellent old-fashioned dish, Pease pudding.

" Pease pudding hot, pease pudding cold—
Pease pudding in the pot, nine days old."

So runs the old doggerel, and here is the recipe, of which " the proof of the pudding is in the eating " : "A pint and a half of split Peas, a quarter of a pound of butter, pepper and salt, three yolks and one whole egg. Soak the Peas twenty-four hours, then tie loosely in a cloth, put them in a saucepan of cold rain-water to boil, allowing two and a half hours after the water has simmered. When the Peas are tender, drain them from the water, and rub them through a colander with a wooden spoon. Stir in the butter, pepper and salt, and mix with the eggs. Then tie tightly in a cloth, boil another hour, turn out, and serve very hot with any rich meat, such as pork, ham, &c." Margarine does quite well instead of butter, and the number of eggs may be modified, if wished. Reboiled a second, and even a third day, the pudding is still better ; what it is like when " nine days old " I cannot say, for ours has never survived to tell the tale.—W. D., *Altrincham.*

Vegetable-Growing in War-Time.—Though not a raw recruit, I have read with interest your little book for beginners, " Vegetable-Growing in War-Time." On reading the advice on page 13 to apply wood-ashes at the time of planting Potatoes, I was reminded of an experience of mine last year, when I used wood-ashes, which I had carefully stored all the winter, on one half of my Potato ground, placing a double handful on each set as I planted it in the trench. When the plants should have broken through the surface, they appeared, one here and there, very irregularly, and much later than those on the plot not treated with ashes, which was looking well. After patiently and vainly waiting for improvement, I replanted on June 1 between the rows of the plants I had ruined by kindness, which rows I hoed out when those of the second planting appeared. Perhaps you can tell me wherein I failed, and your explanation may save others my experience. [The Potatoes may have been overdosed with potash, a double handful being sufficient for at least four sets. Wood-ashes are of even greater value when applied at the same rate as a top-dressing just before earthing up.—ED.] You rightly condemn the use of the dibber for planting Potatoes. Last season fourteen boys under my instruction each planted a row of Potatoes hurriedly with dibbers ; another set of fourteen boys planted similar rows under identical conditions, except that the sets were laid in deep drills and soil drawn over them. The average yield in the second case was double that of the first, a result which was far more striking than I had expected. Last season was a very favourable one for Peas, and each of my half-dozen sorts did well. My experience of Webb's Senator fully bears out the favourable opinion you express with regard to the prolific nature of this Pea.—H. W. C.

A PROLIFIC CROP OF SENATOR PEAS.

Comments on " The Garden " of March 31.—With a great sigh of relief I read the first paragraph in " Notes of the Week." It led me to hope I may (?) presently get my seed Potatoes (ordered and paid for in January). I have been saying " Bother oh ! Prothero ! " for some weeks. Next, I note my favourite old panacea for garden ills—lime—has, in the turning of Time's wheel, come again to the fore. About Sugar Beet, I am not altogether discouraged, in spite of the *icy* showers poured on it. I have done so many things men assured me were " impossible " that I do not despair of using Sugar Beet in the household. Regarding the " Staking of Runner Beans," I am at one with Mr. Beckett. Twelve years ago I bought a bundle of 250 Bamboo poles, and was severely criticised for my extravagance in using them to stake Runner Beans in Sussex fashion, *i.e.*, a double row slightly slanting towards each other, so as to cross about a foot from the top, and horizontal poles resting on them where they meet, and firmly bound there. The Bamboo poles were quite ornamental thus treated, and proved most economical, for some of them are still in use ; whereas ordinary Bean poles seldom survive a second season. It is *fine* to find such a recognised authority as Miss Jekyll commending Swedes. It is astounding how quickly that humble vegetable has become popular. It was little known, save by country cottagers, in England (though used in Australia) when a few years ago I first wrote—almost apologetically—of it in THE GARDEN. Now it seems probable the Swede has " come to stay." I have grown the so-called " garden " Swedes, but find them inferior to the best field varieties. I smiled on reading " Hurstcot's " assumption that my " Dispraise of Potatoes " had " a significance quite unthought of " by me. I wonder *why* he supposes that to *him* is given a gift—denied to *me*—to discern the spiritual significance of plants ? It is rather uncivil of him to insinuate that my intelligence does not soar above saucepans. His obsolete logic obviously runs thus :

" Woman is ignorant.
' Anne Amateur ' is a woman—
Therefore she is ignorant."

It happens that the psychism of plants and the folk-lore concerning them have long been among my favourite studies (though I do not aspire to be a *bas bleu* any more than " Hurstcot " does to be a *cordon bleu*). If it be imagination he thinks I lack, I learn for the first time that *that* is a masculine monopoly ! I did not allude to the theory that feeding on Potatoes induces mental inferiority, because I incline to concur with the Editor's opinion that it is more probably monotony of diet that does this. I hope the Rev. J. Jacob will let us have his views on this question. I find I end—as I began—with Potatoes, the omnipresent topic, which now seems to rival poor Mr. Dick's King Charles' head in all our conversations.—ANNE AMATEUR.

Redoute's Works.—In connection with the Rev. J. Jacob's interesting account of Redouté in your issue of March 3 (page 76), it may be worth while to reprint a reference to an original drawing by that great artist which may possibly be traced and secured for the Royal Horticultural Society. In 1884 I was fortunate enough to obtain for the Department of Botany from Mr. John Lee, a grandson of the original James Lee of Hammersmith (1715–95), a series of drawings of Cape plants by Francis Masson. Of these I gave some account in the *Journal of Botany* for that year, in the course of which (page 123) is the following passage : " Mr. John Lee (the name is incorrectly given as James) . . . was good enough to show me . . . an exquisite original drawing by Redouté of Campanula medium, the history of which he gave me. Redouté was in England making drawings for publication from a valuable collection of butterflies in the possession of his father, who entertained the artist at his house while the work was in progress. When it was finished, Redouté said he must leave something in acknowledgment of the kindness with which he had been treated, and, going into the garden, brought in a Canterbury Bell, from which he made a drawing and presented it to Mr. Lee. It is a beautiful example of his work." I had some hope that Mr. John Lee would have presented this also to the Department of Botany, but such was not the case. We have in the Department a copy of the second issue of the " Liliacées " ; Mr. Jacob may like to know that I. Bellenden Ker published in the *Journal of Science and Arts*, Vol. I., page 168

(1816) a "Systematic review" of the plants figured in this work. In the *Journal of Botany* for 1905 (pages 26 to 30) W. B. B. Woodward gives a detailed list of the dates at which the parts of Redouté's works were issued.—James Britten.

Different Forms of Digging.—As a contribution to the very interesting and informative discussion on the above which is being carried on in your columns, may I be permitted to sound a note of warning for the benefit of those—and there must be many at this time of increased interest in gardening—who have not had much experience of soil working and so are not in a position to discriminate. While some soils may be, and from Mr. Beckett's experience are, capable of being worked to the depth he advises, there are certainly others for which such treatment as deeply burying the surface soil would only spell disaster. I refer more particularly to shallow sandy soils, with gravelly or chalky subsoils, with which I have had a good deal to do, but I have also in my mind's eye an instance, on the strong Staffordshire clay, in which a good corn-bearing field was ruined by very deep steam-ploughing, the subsoil being brought to the top, though, of course, not from anything like the depth advocated by Mr. Beckett. I saw the field some five years after ploughing, and the only crop which would grow was wild Camomile, which, by the way, had never appeared in that particular field before, and any corn sown merely dwindled away. By the way, how would the London clay subsoil fare when brought on to the surface in a wet and frostless winter? Surely it would never work down.—E. S. Chattock. [For the benefit of those who have not followed this correspondence closely, we point out that the system of deep trenching and bringing the subsoil to the surface advocated by Mr. Beckett involves (1) drainage to the depth to which the soil is worked, (2) surface dressing of lime on clay soil in March, and (3) addition of prepared soil, including half-decayed stable manure, at the time of planting. Even a solid clay subsoil has been known to give good results when treated in this way.—Ed.]

—— The note on the various forms of soil transposition (page 105) exhibits a wide difference from what I understand them to mean. One need not refer to digging or to trenching, which, though there are various methods of carrying these out more or less perfect, their meaning is fairly well understood. However, when I have a bit of ground double dug, the men carry before them only the width of the spade, the top material being turned into the bottom of the trench last turned over, and the soil under the first spit is placed on the top of that. It is in effect a rapid, though not so efficient a method of cultivation as simple trenching. Bastard trenching consists in turning the top spit over without transposing its position, the under layer being dug without removing it out of the trench. It varies by shovelling the "crumbs" left after the top spit has been moved, thus at little expense of labour ensuring a considerably greater depth of soil broken up. The effect is exactly similar to that noted as bastard trenching by Mr. Agar, with the difference that it requires considerably less labour than the involved procedure he advocates. It is impossible to improve on the old-fashioned method of trenching which transposes the various layers of soil, whether two or three spits in depth, every time trenching is carried out. All the old gardens in the United Kingdom have been cultivated in that way, and however attractive the theory may be to those who know no better that the proper and only efficient method of soil cultivation is to keep the surface soil always at the surface, it is a theory that will not stand the test of time, and those who have been led astray by a specious reasoning may yet live to see the time-honoured methods of practical gardeners once more recommended in horticultural papers.—R. P. Brotherston.

Swede, Cabbage and Turnip.—To listen and learn is more to my liking than to engage in any form of argument, but surely the note on page 103 in the issue of March 31, quoting Professor Bailey's classification of Turnip and Swede, rather confirms than confutes my impression that the Swede inclines by relationship rather to Cabbage than to Turnip. Brassica is Latin for Cabbage, and the two names Napus and Rapum are equally Latin for Turnip. The botanical name of Turnip, viz., Brassica oleracea Rapa, in plain English means Cabbage family—garden-stuff—Turnip. That of Swede, viz., Brassica oleracea Napo-brassica, means Cabbage family—garden-stuff—Turnip-Cabbage. In saying that a Swede is not a Turnip but a Cabbage I may have put it too bluntly; perhaps I should have said that it appears to be nearer Cabbage than Turnip. Then there is Kohl-rabi, another Turnip-rooted Cabbage, in which the bulb-like swelling of the stem is just clear of the ground; but no one would consider this a Turnip. I take it that the Turnip proper is the widest and most characteristically distinctive break of any of the cultivated Cabbage family. It seems to stand separate and isolated. The flavour is quite its own, and in the bristly, bright green leaf it has a character in sole and absolute difference from all others of the garden Brassicas, all of which have smooth-surfaced leaves, the greater number with a glaucous colouring. While on this subject may I remind readers of the excellence of the very hardy Russian Kale, a kind not enough grown. We have used the tops and are now enjoying the side sprouts. All the Sprouting Kales are welcome, especially now when greenstuff is scarce, but we find the Russian Kale one of the very best.—G. Jekyll.

Seakale Beet, or Swiss Chard.—This is a vegetable not nearly so largely grown as it deserves. It is undoubtedly a variety of what is commonly known in this country as Seakale Beet, and when grown to perfection and nicely cooked is a most desirable addition to our kitchen garden crops. It should be sown in boxes in a gentle heat during February, March and April to give a continuous supply, and planted out in well-prepared ground in a sheltered position; but to produce it at its very best, a deep cold frame should be allotted to it, as by so doing the growth is much more rapid and tender. The leaves can be cooked like Spinach, and the stems like Asparagus or Seakale; both are excellent.—Edwin Beckett.

SEAKALE BEET.

The leaves may be cooked like Spinach and the stems like Seakale.

Variation in Apple Cox's Orange Pippin.—I am very much interested in Mr. H. A. Whiffen's note *re* two varieties of Cox's Orange Pippin in his possession. It is possible that one of these is what is termed a "sport"—that is, it may have been propagated from a branch that varied or sported from the original stock—or, of course, it may have been a seedling, but this is not very probable. I have never definitely heard of the parentage of Cox's Orange Pippin, but I remember reading somewhere that the Apple called Margil was the "mother" of Cox's Orange Pippin. It was probably the result of an accidental cross, and I should say that, if so, Ribston Pippin was probably the "father." The Apple bears a great resemblance to Margil in appearance, and partakes both of it and Ribston Pippin in its flavour. It is said that Cox's Pomona was raised from a pip of the same Apple as Cox's Orange Pippin, but it is far inferior to it, and the parent pollen can hardly have been from the same "father"; neither does Cox's Pomona remind us of Margil. Probably anyone crossing Margil and Ribston Pippin would get an Apple equal, and perhaps superior in some ways, to Cox's Orange Pippin.—W. J. Farmer.

—— Your correspondent Mr. Whiffen suggests that there are two forms of Cox's Orange Pippin. I would remind him that there are many varieties of Paradise stock, and his trees are perhaps not on the same stock. Or it may be that the tree has rooted from the scion and is thus on its own roots. There is, too, a chance—I do not put it at more without further knowledge—that grafts taken from a strong, upright shoot may grow more upright than those taken from a side shoot. It certainly is noticeable in some conifers that side shoots persistently refuse to make a leader, and it may be that something analogous will be found in Apples. I know of a very similar case to Mr. Whiffen's in a plantation of Lane's Prince Albert Apples, some trees growing very strong and upright and a great contrast to the remainder of the trees, which have the normal pendulous Lane's Prince Albert habit.—E. A. Bunyard.

ROCK GARDENING AT MOUNTON HOUSE

By H. AVRAY TIPPING, M.A.

THE gardens surrounding Mounton House occupy some acres of slightly sloping table-land and a section of a limestone gorge that edges the table-land on the south and west. A large part of the former area is laid out formally, while the whole of the latter is given over to the wild and water gardens. There is, however, an interspace—a fringe of the arable field that used to occupy the table-land, of which the unevenness has been intensified, especially where quarrying operations were carried on, and the rocky character revealed. This ex-quarry forms the foreground of the illustration, two terraces—the one grass, the other paved—lying between it and the house. Where the quarrying had been deepest, pools were made. The hollow was increased and then cemented. Although pudlo was added to the cement, the extra precaution was taken of giving two coats of hot tar, sanded over, as a leak after completion would have been disastrous. Only the central portion of the cemented area was left for the water, a considerable but very irregular margin being bordered with rocks and filled in behind them with sandy and peaty earth, forming a morass, whence the moisture, by capillary action, is in a measure transmitted to the soil beyond the cemented area. Thus, in a very open and sunny spot, subjects needing much or moderate moisture are accommodated without the necessity of watering, while the rocky banks around are well suited to many a dry-loving alpine, with water at need from a handy hose-pipe, supplied, as are the pools, from the estate water main. The tall flowering stems of Primula pulverulenta and the elegant leaves of Rodgersia podophylla are seen by the waterside in the foreground of the picture, reproduced from a photograph taken last May. Earlier in the spring the sturdy stems of Caltha polypetala had carried the heads of golden bloom above the big leaves, the whole jutting out into the water and reflected therein. The stateliness of these plants is enhanced by making them rise out of an undergrowth of Primula rosea and Omphalodes verna blooming at the same time. Then follows a selection of the tall Primroses of the japonica type, of which Bees' hybrids give much variety of tone. That enterprising nursery also offers excellent Mimuluses (of which the dwarf, vivid-coloured Whitecroft Scarlet is perhaps the gem) that begin to bloom as the Primulas go off and before Astilbes begin. Of the latter it is the pink ones, such as Ceres and Salmon Queen, that find a home here. Cypripedium spectabile and Iris Kæmpferi flourish in the marsh; while in the damp soil just beyond it is a happy colony of Columbines of the cærulea type strengthened by crossing with a more vigorous breed without loss of the long spurs. Rising from the marsh is a rocky mound wherein a group of Ramondia pyrenaica is set vertically, facing north and additionally shaded as summer progresses by the foliage of the tall Astilbe Davidii. Next to it, but having more sun and light, its cousin Haberlea rhodopensis so crowds its allotted chinks that it needs frequent thinning. Beyond the humid area many Campanulas, such as Raineri, pulla and G. F. Wilson, have spread so as to assume the look of natural patches. Various Saxifrages, Dianthi and Stonecrop clothe the ground, and the sunniest spots are given to alpine Wallflowers, Æthionemas and Linums, all of which have suffered badly this winter, as also have certain shrubs associated with them, such as Cistuses and Veronicas, Fuchsias and Coronilla glauca. Many, I hope, will recover, but they are needing drastic cutting back and will be poor-looking things at best during this season, which promises to be one of sufficient gloom through the action of the Hun without any ugly knock on the part of Dame Nature. Luckily, the injured innocents occupy only a fraction of the ground. The broken rock-strewn stretch beyond the pools and their banks shows much herbaceous stuff in bloom, of which Irises are most conspicuous in the photograph, and beyond them shrubs, among which groups of white Portugal Broom and of Exochorda macrantha are covered with flower. I never succeeded in making Exochorda grandiflora quite at home here. The lime in the soil makes its foliage poor and yellowish, and there is not the vigour needed for a fine display of bloom. But its descendant, the macrantha variety, I tried as soon as it was introduced, and it does excellently. I have bushes 8 feet high and as much across, producing yearly an abundance of bloom-buds which, unfortunately, are liked by the birds, so that the fulfilment of flower is apt not to be quite equal to the promise. Where the photograph ends on the left there is an open, undulating area set with hundreds of plants of Erica carnea and its offspring Erica mediterranea hybrida (syn. E. darleyensis, Bean). They often show flowering sprigs before Christmas, and are rich in colour during February. Not so this cold winter, but the frost has had no ill effect beyond delay, and these early days of April are made bright by their sheet of bloom. In the background, but occasionally coming forward among the Heaths, are flowering shrubs, Lilacs and Deutzias, Forsythias and Rhus Cotinus purpureus. The latter covers itself with crimson purple fluff as July opens, and, even when the colour dies out into grey as autumn advances, it remains a source of joy, for its foliage assumes rich tints. In the more rocky section to the right of the main path, dwarf growths occupy the foreground. Stony flats to walk on get carpeted with Woolly Thyme. With a little care and frequent resowing of collected seed the beautiful Linaria alpina—both the type and the rosy variety—is kept going on the edge of the gravel. Type Violas, especially gracilis, are encouraged to spread. The rosy Gypsophila and the Maiden Pink embrace each other as they spread. Behind stretches of Creeping Phlox are tufts of the Canadian species as improved by Mr. Perry. It is apt to disappear entirely after a most successful season, but is easily propagated by breaking up a few plants every summer, and is a subject well worth much more pains and trouble than that. For a long period in the late spring its numerous stems are topped with a perfect cluster of pale blue flowers in the manner well shown in the illustration. These plants continued for three seasons without

A ROCK GARDEN IN A QUARRY.

being touched, but were replanted this autumn to free them from weeds and give them new soil. The winter does not seem to have evilly affected them or the colonies of propagated plants put out at the same time, for all are now happily springing up.

Form, which to the Japanese is the first essential, is often much neglected in our rock gardens. Untidy growths are permitted to spread haphazard and cover over even the bolder and more important rocks. They may be quite charming in their flowering season, but a detriment during a large part of the year. They should be used with reticence and kept in bounds, while subjects having the virtue of deportment, such as the Flag Irises and the Heucheras, Sedum spectabile and Statice latifolia, are to be encouraged. So are certain evergreen shrubs that are of compact growth, but a marked habit either vertical or horizontal. To heighten the effect of certain mounds I have set Golden Irish Yew to form minarets, and Retinospora ericoides to form pyramids. For horizontal effect the spreading Junipers cannot be beaten, but where the position is exposed and the soil none too good the prostrate Yew, called Taxus Dovastoni, is excellent. I have specimens that came from the Darley Dale Nursery quite a dozen years ago that are 6 feet across but not above 15 inches high. Others, planted five years ago amid rocks, stretch themselves in the gaps or over the shelves, assuming most engaging and graceful shapes, covering much space, yet never reaching a greater height than 10 inches. Where a bough begins to hide a rock or oppress a plant it can easily be removed or curtailed. But where the Yew occupies its right domain it must not be allowed to be killed or spoilt by any rampageous summer neighbour. To get something tall to grow among and group aright with these prostrate evergreen shrubs, and yet not smother or even seriously shade them, is difficult. The best subject I know is Sparaxis pulcherrima. Its arching wands ending with purplish pink bells in full summer are the perfection of form, cause no shade, and are so wiry that without any artificial support they sway uninjured in the roughest wind. It is a tuberous plant impatient of disturbance. It should be grown from seed in pots and then planted out, or sown in sand heaped on to rich soil where it is intended to grow. With me it succeeds admirably. There are old groups of its wands 7 feet high in summer, and young, often self-sown, tufts everywhere. "We call them Canterbury Bells," quoth a small boy whom I at first thought was displaying abnormal botanical ignorance, but who spoke quite correctly, for he came from Cape Colony, where the plant is indigenous and where this popular name is transferred to it from our well-known Campanula.

GARDEN TOOLS

(*Continued from page* 107.)

Dutch Hoes.—Every large garden should be provided with both large and small sizes of this invaluable tool. On one of my visits to the Dutch bulb farms I noticed that their hoes were of a different pattern from ours, so I bought one and brought it home, and soon found it miles ahead of our English pattern. Our own makers have improved on the pattern, and we now have a grand hoe for working in open spaces, between fruit trees, or for cleaning bulb-beds when the bulbs are dormant. The best pattern of small Dutch hoe—4½ inches to 6 inches—is made by Messrs. Skelton and Co. of Sheffield. It is made out of sheet steel shaped into half hollow tines, and with a socket for the shaft. I cannot say why this pattern works more easily than any other, but I am fully convinced it does. I have had two or three of these hoes wear down until the blade was not more than a quarter of an inch deep, and they cut well until the inevitable break occurred. It is almost more important to keep hoes clean and bright than it is to keep a spade clean. If not bright it is impossible to use them if the soil is at all damp, as it clogs the blade directly, which makes easy work into hard work, and the results are not so satisfactory.

PHLOX CANADENSIS LAPHAMI PERRY'S VARIETY.

When to Use the Hoe.—Many gardeners, especially amateurs, make a huge mistake in allowing weeds to grow into full-sized plants before they think of destroying them. This means at least treble work in the end. First, the work is much harder; secondly, the weeds will have to be collected and taken away; and, thirdly, much seed will have been shed to start a new crop. I have known amateurs to leave weeds to grow until they could not use a hoe for fear of destroying "the wheat with the tares," and consequently had to slowly and laboriously fork out the weeds. Now, if the weeds are hoed off while still quite young—not much beyond the seed-leaf stage—they will die at once unless the weather be very showery, and the work will go easily and quickly. Take the case of beds of vegetable seeds. If the hoe be run between the lines of seedlings as soon as they are visible and continued throughout the season, the only hand-weeding necessary will be in the rows themselves; whereas if left a little too long it will mean hand-weeding the whole bed, a most slow and back-aching job. Added to this, the constant working of the soil between growing crops is of great benefit, apart from keeping the weeds down. Especially is this so in dry weather, as it closes up the cracks in the soil and prevents evaporation. In our fruit tree nurseries the hoes are frequently going when there is hardly a weed to be seen, simply to keep a loose surface soil and prevent the under soil getting dry.

Trowels.—A very satisfactory pattern is made on the same lines as the small Dutch hoes and by the same makers. These tools work three times as well if kept quite bright. Makers have a stupid habit of stamping their names on the blades of hoes and other garden tools. These stamps make a collecting place for soil if the land is at all moist and one often has to hoe when the soil is not in the best condition for the work. There should be no such stamp used on the blade of the hoe or spade. It might just as well be put on the socket or some part that does not come in contact with the soil.

Rakes.—I have not much to say about these. There are many patterns, most of them having good and bad points. I think makers make a mistake in putting the teeth too close together in the larger sizes. The larger sizes are used for rougher work, and too many teeth are a nuisance. For the fining down of seed-beds I prefer a large rake with a wooden head, and with iron teeth about 2 inches apart. One can get the soil into condition for seed-sowing more quickly and easily with such a tool than with an ordinary fine garden rake. By the way, I consider there is more art required in the proper use of a rake than in almost any garden tool. It takes long practice before a man can make a really level and fine seed-bed.

Lawn Weeders.—I have tried nearly every device that has been invented for taking weeds out of lawns, and have at last found what I consider the best of all. It is called a Daisy grubber by the makers; but I consider it a waste of time to dig out Daisies—with the exception of single-crowned plants, which may be extracted without making any mess—as they can be more easily and quickly killed with lawn sand. This little tool is only 18 inches over all, and is the handiest of tools for extracting Plantains, Dandelions and other tap-rooted lawn weeds.

Pruning Saws.—I have found from experience that these must be very narrow in the blade, for in three cases out of four the pruner wants to get his saw between two branches in order to cut close to the stem of the tree. If this is not done, *i.e.*, if a snag be left, it will almost always die back and cause trouble to the stem of the tree. Of course, if large branches are to be removed, an ordinary hand saw will have to be requisitioned. I have seen weird things called pruning saws with two cutting edges, one having fine teeth, the other coarser ones. Now, fancy using such a tool between two branches growing close together! It would certainly mean ruin to the branch left behind as well as to the one removed.

Garden tools are too often made by manufacturers who know little or nothing about their practical use, and are sold by ironmongers or others who perhaps know less still, so that unwary amateurs often buy the worst of patterns when they might have had the best for the same money. It is the duty of all who really know a good tool from a bad one to let the public know which are the best patterns; also to do all they can to get the makers to turn out really good serviceable tools.

J. DUNCAN PEARSON.

The Nurseries, Lowdham, Notts.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—Continue to sow for succession varieties of the Longpod type, as these give a heavier crop than the Windsor section. Put out the plants raised in boxes, using, if possible, a little prepared compost to cover the roots as an encouragement to prompt rooting action, which hastens growth.

Asparagus.—Where not done, the winter covering of soil or manure should be raked off into the alleys, first digging these over where it is customary to plant Cauliflowers, Cabbages or Lettuces. Where the beds are liable to be infested with weeds, give a dressing of agricultural salt to check their growth and aid the Asparagus.

Turnips.—Make a small sowing of Early Milan on a south border. Directly the plants show through the soil, dust them with dry wood-ashes and protect from birds.

Spinach.—Sow Spinach in small quantities in favourable sites and for the economic use of the land. This is the quickest-growing vegetable at this season of the year.

Carrots.—Sow the main batch of such varieties as Red Intermediate, Long Surrey, and a good Short Horn sort where the longer-rooted kinds do not succeed. Thin sowing in drills 14 inches apart is the most economic treatment of space I can suggest.

Celery.—Plants raised from seed sown in gentle heat in the early part of March for the main batch will now be ready for pricking out in a prepared frame or boxes, the former for preference, as the plants are not so liable to suffer from want of water there as they are in boxes when they are fully furnished with roots. Grow the plants sturdily, so that they do not receive a sharp check when planted finally in the trenches.

Cabbages.—Those that were planted in the autumn have had a struggle to withstand the severe weather and the ravages of wood-pigeons. Several plots have been dug or ploughed up, so many plants having perished. Those remaining should be encouraged to grow by stirring the soil between the rows frequently during dry weather, and have occasional sprinklings of sulphate of ammonia or nitrate of soda. The plants of such varieties as Earliest, Best of All and Favourite raised under glass will be doubly valuable this season for filling gaps and making new plantations.

Salsify.—Sow seed at once in deeply worked soil in drills 14 inches apart. If the land is stiff or stony and very large roots are required, holes 2 feet deep should be bored, filling them with fine soil and sowing two or three seeds in each.

Fruit Under Glass.

Vines growing freely should have regular attention in pinching the point out of each side shoot, two leaves beyond the bunch, as a rule. Three leaves where space permits may be retained. Pinch the laterals at one leaf and remove the sublaterals entirely. The latest Vines should be promptly disbudded when the best shoots and bunches can be plainly discerned. Vines that have "set" their bunches and are making the first swelling should have copious supplies of water given to the inside borders to assist the swelling bunches. In late houses where the Vines are just pushing into growth, the borders must not suffer from the want of moisture.

Thinning the bunches and berries is all too often postponed by the amateur. When this is so, the Vines are asked to carry an unnecessarily greater weight of fruit than they should, which tends to weaken the Vines and prevents the swelling of the berries. Directly it can be seen which are the best-placed bunches, cut off all surplus ones. A strong Vine rod 12 feet long may carry fifteen 2lb. to 3lb. bunches, and so on in proportion to the manner the Vines are supported. Directly the berries are of the size of Peas, the surplus ones should be removed.

Melons.—The early batch of plants, considering how little sun they have received, are growing nicely away. Keep the shoots thin and the roots carefully watered.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)

Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—A few weeks of open weather have allowed work in this department to be rapidly pushed forward. Winter greens, Brussels Sprouts and Broccoli are now well over, so should be cleared out at once to allow of the ground being cultivated as soon as possible. The intense frost of the past winter has been most trying to winter vegetables. Broccoli suffered more than anything; in many gardens scarcely a plant was left, even among the supposed hardiest varieties. A sowing of autumn Broccoli may now be made; Veitch's Self-protecting is an excellent variety for autumn and early winter use.

Cauliflowers.—Plants that have been wintered in frames may be planted out now. Choose a warm border with a rich soil for this early crop. Varieties such as Early Snowball, being of dwarf habit, may be planted much closer than the stronger-growing sorts. Eighteen inches between the lines and a foot between the plants will be ample.

Potatoes.—Main crops may now be planted, choosing a spell of favourable weather for the work. Plant reliable, heavy cropping varieties, and for the national good give every attention to this most valuable crop. The special articles on Potato culture by competent writers in recent issues of THE GARDEN should prove most helpful to all growers.

Peas.—Sow Centenary, Duke of Albany and Gradus for succession.

Salsify.—A deep, sandy soil suits this vegetable best; it should never be grown on ground that has been recently manured, or the roots will be forked and scraggy. If sown now on the site of a last season's Celery trench, roots of high quality may be had. In most households this winter vegetable is much esteemed.

Fruit Under Glass.

Vines.—Grapes should now be ready for thinning in the earlier vineries. This should be done as soon as possible after setting, as when left too long and the berries firm to each other, there is danger of the operator damaging the berries which are to be retained. After thinning, give a dressing of artificial manure to the border and water thoroughly in. See that the border is fairly moist before applying the manure, otherwise a watering is recommended. In later houses constant attention must be given to disbudding and the tying down of lateral growths.

The Flower Garden.

Violas.—These may now be transferred from the frames to their flowering quarters. Violas are partial to a rich, well-cultivated soil, and if well treated will give an abundance of flowers throughout the season.

Primula japonica.—Numbers of these which were raised from seed last summer will now be planted in the bog garden and by the margin of the lake. They are partial to slight shade and a moist soil. The addition of peat to the soil adds to their successful cultivation.

Miscellaneous Plants.—Rooted cuttings of Cheiranthus, Rock Roses, shrubby Veronicas, alpine Phloxes, Tree Lupines, &c., which have been wintered in frames may now be planted out, filling vacant spaces in the rock garden and the front of the herbaceous borders with the dwarf subjects. The frames thus rendered vacant can be utilised for the raising of other material.

Lawns.—Where the lawns are worn and bare, seed may now be sown. Stir the surface with an iron rake, then dust with sifted soil, and afterwards sow the seed and smooth the surface with the roller.

JAMES MCGRAN.
(Gardener to Sir William H. Houldsworth, Bart.)

Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

TREES AND SHRUBS.

YUCCA DAMAGED BY FROST (*Alford*).—If the stems of your plant of Yucca gloriosa cannot be staked into an upright position, they may be cut off. Then tie the leaves of each branch together, removing any dead or dying leaves, and cut the stems off about 9 inches below the leaves. Afterwards place each head separately in a large pot, using loamy soil to which a large quantity of coarse sand and leaf-mould has been added, and place the heads in a warm greenhouse. Do not give very much water, but just keep the soil moist. Syringe the leaves twice daily. In about three weeks or a month new roots ought to have formed. The plants may then be hardened off, and as soon as they are really well rooted they can be planted out of doors. If the old stems are laid in light soil, many young shoots will be formed. These can be used as cuttings if desired.

THE GREENHOUSE.

NAMES OF CHRYSANTHEMUMS (*Miss D.*).—The following varieties should suit your purpose: Decorative Japanese.—Baldock's Crimson, rich crimson; Bronze Soleil d'Octobre, bronze; December Gold, rich yellow; Decorator, yellow; Felton's Favourite, white; Framfield Yellow, rich yellow; Freda Bedford, bronzy orange; Glory of Merstham, soft pink; Goacher's Crimson, rich crimson; John Scott, white; Kathleen May, bright crimson; Lizzie Adcock, golden yellow; Mlle. Louise Charvet, pink; Market Gold, rich golden yellow; Market Red, velvety red; Moneymaker, white; Mrs. Thompson, white; Mrs. W. Buckbee, white; Mrs. E. H. Christy, amaranth; R. F. Felton, deepest yellow; Source d'Or, orange red; Tokio, crimson scarlet; Wells' Crimson, bright crimson; Christmas Gift, golden amber; and Christmas Rose, bright rose pink. Single varieties.—Arcturus, maroon crimson; Bronze Edith Pagram, reddish bronze; Caledonia, rosy lilac; Edith Pagram, pink; Felicity, white; Florrie King, clear pink; Florrie Stevens, orange red; Framfield White, purest white; J. B. Lowe, brightest crimson; Kitty Bourne, deep yellow; Lady Furness, reddish salmon; Maggie MacLeod, rich bronze; Mensa, white; Merstham Gem, rosy crimson; Merstham Jewel, reddish terra-cotta; Merstham Tints, soft bronzy yellow; Mowena, orange red; Mrs. R. C. Pulling, pink; Nellie Riding, reddish salmon; Peter Pan, fawn colour; Sandown Reliance, reddish crimson; Sir George Bullough, deep yellow and Sylvia Slade, rosy red and white.

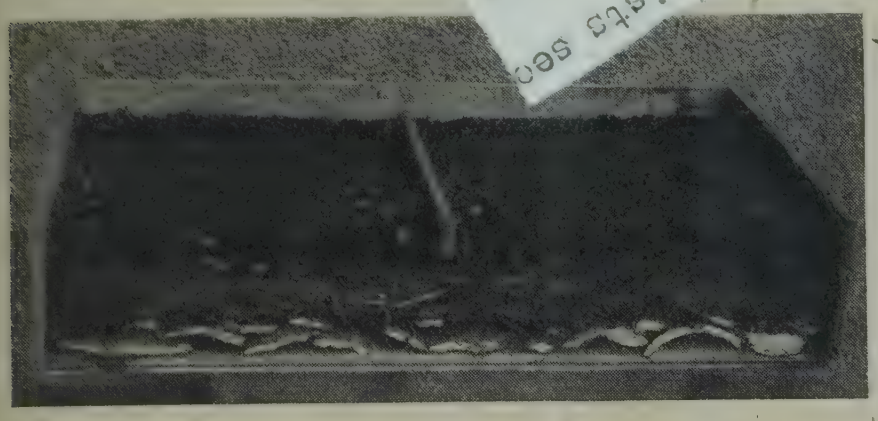
MISCELLANEOUS.

TENNIS COURT MEASUREMENTS (*A. E. G. A.*).—The measurements of the white lines of a full-size lawn tennis court are as follow: Base lines, each 36 feet long; side lines, each 78 feet long. The net is in the middle. Parallel to each side line and 4½ feet away are other lines the length of the court, leaving 27 feet between the inside lines. A service line extends between these inside lines at each side of the net and 21 feet from the net, a line at right angles bisecting the two in the centre. Behind the base line should be a run back of at least 12 feet, and a space from 4 feet to 6 feet wide should be allowed along each side of the court.

NAMES OF PLANTS.—*M. N. K.*—1, Pieris floribunda; 2 and 5, Cupressus Lawsoniana, golden form; 3, Cryptomeria japonica; 4, Euonymus radicans variegatus.

SUCC[illegible] WING

THE amateur [illegible] frame, or possibl[illegible] for the raising o[illegible] couraged. It may [illegible] years failure has co[illegible] and instead of having a good su[illegible] seedlings for planting out, the [illegible]



I.—SEED-BOX WITH SIDE REMOVED.
Showing drainage in bottom covered with rough material and fine soil on the surface.

plants have never got beyond the seedling stage. That a little artificial heat is a great aid in the raising of such kitchen garden crops as Tomatoes, no one will deny. Yet it is by no means indispensable. Indeed, seedlings raised in a cold frame or greenhouse by amateurs are usually more sturdy and better in every respect than those raised by inexperienced cultivators in artificially heated structures.

Boxes and Seed-Pans.—The receptacles in which the seed is to be sown need to be selected with some care. Boxes or pans 3 inches or rather more in depth are preferred by many; but where only a little seed of a kind is needed, an ordinary flower-pot, 5 inches or 6 inches in diameter at the top, answers well, and does not take up a lot of room. Whatever is used must be scrupulously clean and have ample outlet at the bottom for waste water; stagnant moisture in the soil kills more seedlings under cool conditions than anything else. The boxes ought to have holes three-quarters [illegible]iameter in their bottoms, [illegible]uch for a box measuring [illegible]. Over these holes a layer [illegible] crocks as they are termed, must [illegible]n some rough fibrous material, and, [illegible]e fine, sifted soil. Fig. 1 shows a box [illegible]ne side removed. Note the crocks and rough and fine soil. This is a large box; consequently a dividing board is placed across the centre so that two kinds of seed may be sown in it, one at each end.

Soil for Seed-Sowing.—This is quite as important as the drainage. For the majority of the seedlings that the average beginner is likely to want to raise, the following mixture will answer well: Good turfy loam, well chopped and passed through a 1-inch meshed sieve, two parts; leaf-soil, well decayed and sifted through the same sieve, half a part; and coarse sand, half a part. Retain the coarse material that is left in the sieve for placing over the drainage. In some localities it is difficult to procure turfy loam, but every endeavour to do so should be made, as there is no good substitute. With leaf-soil it is different. Cocoanut fibre refuse or Hop Manure may well take its place. Having placed the drainage and soil in position, as shown in Fig. 1, press the whole down gently with the presser shown at the right of Fig. 2. The edge of this is useful for making lines when it is desired to sow the seed in rows.

3.—TO AVOID WASHING SMALL SEEDS OUT OF SOIL, WATER THROUGH PERFORATED PAPER OR COARSE MUSLIN.

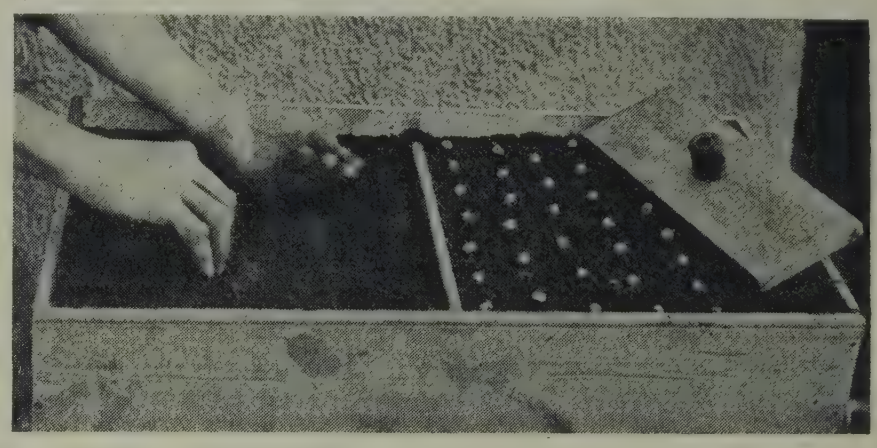
Sowing the Seed.—If there is one thing more than any other that the beginner needs warning against, it is thick sowing. No matter how often this warning is given, it is seldom fully accepted, and thousands of seedlings are wasted every spring by too thick sowing. Seeds differ very considerably in size, and it is not difficult to place the large ones separately, as is shown at the right of Fig. 2. Very small seeds are difficult for the beginner, who may be excused for sowing them too thickly. As an aid to the thin sowing of these small seeds, mix them with some dry silver sand, as shown at the left of Fig. 2. This will make a greater bulk and, if the mixing is well done, will ensure a thin and even distribution.

Covering the Seed.—After the seed is sown it must be covered. Here, again, there is a great deal of difference to be observed. Thus, very small seed will only need pressing into the soil with the presser shown in Fig. 2; while larger seed will need a quarter of an inch thick covering of fine soil. The larger the seed the greater the depth of soil for covering is a good general rule to follow. Do not press down the covering soil except just to make it level, and it is well to have rather more sand in it than is used for the mixture previously advised for sowing.

Watering.—It is no uncommon occurrence to find choice seed that has been carefully sown washed out of the seed-pans or boxes during the process of watering, or, if not actually washed out, carried all to one side, owing to the receptacle not standing level. Therefore, stand all seed-pans, boxes or pots as level as possible and use a fine rose on the watering-can. For very small seeds a sheet of paper, freely perforated with holes, as shown in Fig. 3, may be laid over the soil before watering, or a piece of coarse muslin may be utilised in the same way, although this is apt to adhere to the soil. Pots and small pans can be immersed nearly to their rims in a bucket of water, allowing the liquid to saturate the soil from below upwards. After the sowing and watering are completed, keep the frame or house fairly close until germination has taken place, after which ventilation must be afforded as freely as outside conditions will admit. Give water whenever the soil is at all dry, but avoid overdoing it. Remember, seedlings in an early stage do not want large quantities of water; but, on the other hand, they must not be allowed to become dry. Subsequently they will need transplanting, and this will be dealt with in the next issue.

STAKING DWARF PEAS

ALTHOUGH not usually practised, even the dwarfest-growing varieties of Peas give better returns if nice bushy sticks are afforded the plants early in growth,



2.—LARGE SEEDS CAN BE PLACED SEPARATELY AS SHOWN ON RIGHT.
Mix small ones with dry sand to ensure even sowing. The presser on right will make soil level.

for in addition to the protection these afford from frosts and winds, the haulm being kept from direct contact with the cold earth, growth is more rapid from the time the sticks are first placed against the rows, and later on, when the sun shines on both sides of the row, each side will be found to be equally well laden with pods, and, thanks to full exposure to the sun, these pods invariably fill much quicker and better than others allowed to lie upon the ground. In a wet season this difference is very considerable, and in a year like the present, when we are all striving for early and heavy crops, those readers who just now are halting between two opinions should take advantage of every little item conducive to these ends. Staking has another advantage not fully recognised by many gardeners, inasmuch as it allows a row of early Cauliflowers being planted between even the very dwarf varieties. At least, for some years past our Laxtonian, Little Marvel and Peter Pan Peas have been grown together, the crops of each being ready about the middle of June or, in favourable seasons, a fortnight earlier.

F. R. CASTLE.

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

VARIETY in feeding laying stock is the essence of success where increased egg-production is concerned, but while this is true, extremities must be avoided.

A varied menu.—We may be very fond of porridge, but would not feel happy if it were placed before us at each meal-time and day after day. It is the same with Biddy! The poultry-keeper is indeed fortunate in having so many poultry foods to select from, which makes it quite a simple matter to arrange a varied menu. One does not want to be continually chopping and changing, but readers will understand my meaning from the instances given below. It often happens that newly purchased birds do not commence to lay for a long time after they have been installed in their new quarters. Invariably this is put down to the journey and strange surroundings.

Newly Purchased Birds.—It is true that the change of quarters affects the egg-production of the birds—more particularly shy pullets—until they have become settled in their new domicile, but feeding has an important say in the matter. Very few, if any, pay attention to the special feeding of purchased stock, although they should do. I have always made it a point to recommend buyers, when sending their orders for hens, to ask the vendor very politely for particulars of feeding. If the request is suitably phrased, few breeders will refuse to give the desired information. It will be seen at once how helpful such data will prove in the subsequent handling of the birds after their arrival.

Avoid Sudden Changes.—I do not see how the best can be expected from birds if, upon arrival at their new home, they are forced to undergo a sudden and complete change of food-routine. I do not advocate the adoption of the breeder-vendor's system of feeding *in toto* and for all time. My point is that the birds can be made to settle down in their fresh quarters more readily if they are fed on the foods previously given to them. It might, and probably will, be desirable to substitute an entirely different dietary within seven or fourteen days, and this can easily be done by *gradually* withholding one ingredient at a time and substituting another

Grain-Feeding.—Oats have always been considered my ideal grain for egg-production, but if the same is given day after day and by itself the best results cannot be expected. Oats, wheat and maize are, I suppose, the grains most commonly used by poultry-keepers, and it should not be a difficult matter to ring the changes on this trio. We will suppose that the mixture chosen, as it invariably does, consists of:

Oats	2 parts
Wheat	2 ,,
Maize	1 part

The parts are by weight, and maize is best given in its cracked or broken state, as it is a *hard* grain and is not easily digested *whole* by the fowls.

Oats, Wheat and Maize.—Desiring to vary the diet, I should adopt the rations mentioned above for two days, give oats (four parts) and maize (one part) the next two, and wheat (four parts) and maize (one part) the next two, and so on. I should sometimes look for a grain to take the place of maize, and I should probably hit upon barley. I should, too, leave out the maize and the barley sometimes, but I would always have one of my staple ingredients prominent.

Sprouted Grain.—Grains, too, can be served up in many ways, and I would take full advantage of this. The sprouting of grain is an ingenious idea, and the finished article is in the nature of grain and greenery combined. Oats are principally sprouted, but barley can be as successfully treated. Some fowls will not take to barley, but they seldom refuse it in its sprouted form. Both wheat and barley can be made more palatable as a change by being boiled sometimes, while if a good boiler or copper is handy, maize can be steamed and mashed. During cold snaps I have given "warm" grain to advantage. Prior to the round of feeding, cover the grain with boiling water, strain off the latter quickly, and give the grain in its warm state.

The Smaller Grains.—One can, too, bring into use the smaller grains, and such a procedure greatly benefits the birds. Those I particularly have in mind are dari, buckwheat, millet, hempseed, canary seed, rice, groats, &c. All are not easily available just now, but they represent admirable *change* foods, and are popularly termed "scratch" grains. They are small, and therefore difficult to find when scattered or raked into the litter. For this reason they provide ample scratching exercise and occupation of the right kind for the laying stock. One can give such small grains independent of the others at midday, for instance, or directly after the soft food. In either case the poultry-keeper would not give a large amount. An alternative plan is to make up a mixture of most of the smaller grains mentioned, and occasionally add one part of the same by weight to the other grains recommended.

Scratching Exercise.—When fowls are devouring their meal of grain they invariably take the largest kind first. Maize in particular is a case in point. These larger grains, therefore, do not encourage scratching exercise unless they are buried deep in the litter. If, on the other hand, we add the smaller seeds and grains, the fowls are eventually compelled to get busy searching for the last morsel. That is one good way of providing the layers with something to do. Many poultry-keepers go to the trouble of putting a good depth of litter in the houses, but the fowls do not benefit because they do not "work" it. The first pointer to remember is not to overfeed! It is quite common for me to see litter absolutely full of grain—from top to bottom. How can the owner possibly expect birds to scratch for their food when it is always there on the surface of the scratching material?

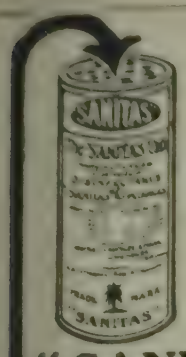
Keep Appetites Keen.—The litter should never be allowed to get into such a condition, and, where this happens, the owner has the option of underfeeding the birds or removing the litter and putting in a fresh supply. Where the former plan is adopted, the fowls will sometimes eat the grain before them, but I always think it is more profitable to remove the litter. If food is left before the birds they lose their appetites and go off their meals. One of the best stepping-stones to increased egg-production is—"keep the appetites of laying stock keen." It is far better to underfeed than overfeed!

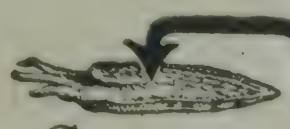
How to Give Grain.—If straw is used as the litter, the grain, if scattered over the bedding, will sink through, but when the material has become "dusty" it acts as a barrier. With certain other litters, too, grain has a difficulty in working through if merely scattered on the surface. No method can beat that of burying the grain well below the surface of the litter. Fowls, the observant poultry-feeder will notice, always scratch away from the light. Bearing this in mind, bury the grain and then rake up all the litter towards the front of the house, or that side where the best light is. The hens will do the rest and obtain the kind of exercise that makes for health, proper circulation of blood, better digestion of food, happiness, keen appetites and increased egg-production.

Maize.—Owing to increased use of maize-flour for bread-making, maize available for stock may be reduced. The Board of Agriculture propose to issue weekly prices ruling at ports. If you are charged excessive prices for maize, write to the Director-General of Food Production, 72, Victoria Street, London, S.W.1.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*





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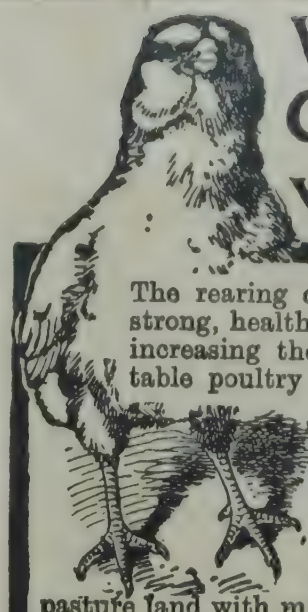

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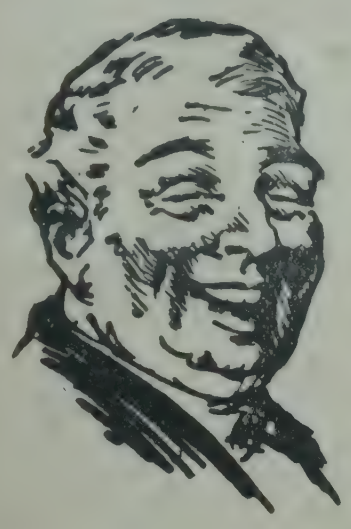

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FIG. 2.

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LIQUID WEED KILLER—Send for particulars.

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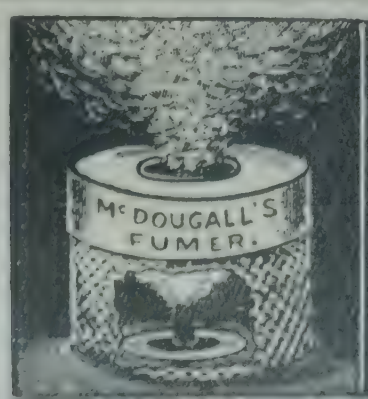

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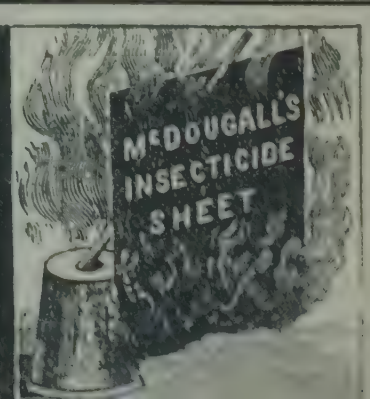

THE GARDEN

A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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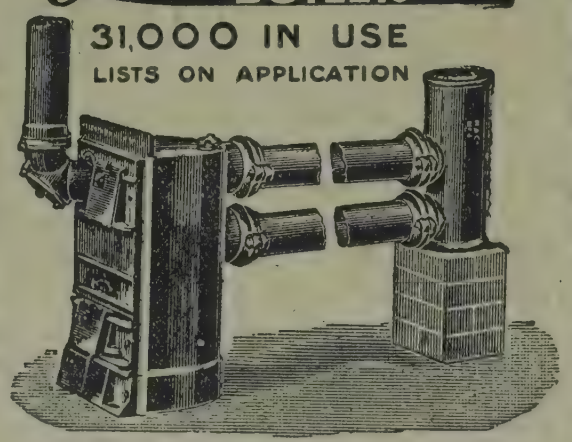

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This fruit is very large and handsome, intense black, with a very high polish, and without any hard core, juice highly flavoured ; of so superior a quality that it is in a class by itself. Those accustomed to the old varieties would scarcely recognise it for a Blackberry. 3, **2/6** ; 6, **4/-** ; 12, **7/6.** Also the lovely new Crystal White, **1/6** each ; 3 for **4/-.**

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This is one of the most unique, and at the same time the largest and most beautiful berry of any kind that has yet appeared before the public. It comes to us from Japan, and is one of the Raspberry family, though in many respects it resembles a Strawberry growing on a bush 2ft. high. The plant is entirely hardy in any location, and a most profuse yielder, ripening an enormous crop of fruit July and August, and more or less all the time up to November. The berries are globular, slightly oblong in form, monstrous in size, a rich glossy ruby-red colour. Makes a most lovely serve and jelly. Now is the very best time to plant these out, as they are just pushing up growth for this season's fruiting. They receive no check from transplanting, and fruit endidly the first season. A bed I put out in the middle of May was a mass of fruit till November. Price, **1/3** each ; 3 for **2/6** ; 6 for **4/6** ; 12 for **7/6.** All carriage paid.

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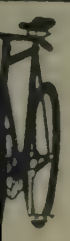

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AUTUMN SOWN. **PLANTS.** COLD GROWN.

There are some places in most Gardens quite unsuitable for the growth of Vegetables, but where Sweet Peas would probably flourish. If only to send to the sick and wounded, **you must grow some.**

The world would be a dull place without the cheering influence of flowers.

PLANT NOW IN THE OPEN.

SEND FOR OUR NEW LIST OF
90 VARIETIES, INCLUDING 20 NOVELTIES.

THE EDITOR OF "THE GARDEN,"

in issue April 7th, wrote as follows —

"We are pleased to see that Messrs. Bucks of Ipswich are offering **a good selection of Sweet Pea** plants, **as well as Tomatoes** both seeds and seedlings, **for which they are so widely known.**"

Make Sure of Good Supplies of the National Colours,

RED, WHITE & BLUE.

Events will probably happen quickly now.
Remember previous Victories, and the great demand for emblems. **The Sweet Pea** is the **most useful of all Flowers** for this purpose.

SPECIAL OFFER.—100 Best in **the 3 colours, 3/6.**

The following are a few selections from List.	doz.	100
Pink—Hercules	8d	4/6
Cream—Clara Curtis	7d	4/-
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Rose—Rosabelle	8d	4/6
Salmon—Earl Spencer	9d	5/-
Crimson—King Edward Spencer	7d	4/-
Scarlet—Scarlet Emperor	9d	5/-
Orange—Robert Sydenham	10d	5/6
Orange Scarlet—Thomas Stephenson	8d	4/6
Orange Pink—Edrom Beauty	7d	4/-
Purple—Royal Purple	1/-	7/-
Maroon—King Manoel	8d	4/6
Mauve—Bertrand Deal Impd.	8d	4/6
Blue (Light)—Wedgwood	7d	4/-
Blue (Dark)—Lord Nelson Spencer	8d	4/6
Lavender—Lavender Geo. Herbert	8d	4/6
Carmine—John Ingman	6d	3/6
Picotee Edged—Evelyn Hemus	6d	3/6
Bicolor—Mrs. Cuthbertson	8d	4/6
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White—Constance Hinton	10d	5/6
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King White	9d	5/-
MIXTURES.		
Spencers—Waved	6d	3/6
Large Flowering	4d	2/4
The Popular	3d	1/9

Not less than 50 at the 100 rate.

"Collections" 6 plants **each** 12 varieties, **our selection, 3/3**; 12 ditto, **5/9**; 25 ditto, **10/6**; 50 ditto, **18/6.**

Important.—We cannot too strongly emphasize the fact that these plants are **Autumn and Winter Sown** and **Cold Grown.** There is a **vast difference** between such plants and those raised in the **Spring** in **heat.**

TOMATOES.

This fruit **will undoubtedly be very much more expensive this season,** therefore all who can should grow their own supplies. Start now if you have a heated greenhouse.

Varieties.	Seed.	Seedlings (ready for transplanting).	Transplntd. (ready for potting).
Ailsa Craig, Comet, Fillbasket, Supreme, Kondine, Sunrise	**6d & 1/-** pkts.	25, **1/-** 50, **1/6** 100, **2/9**	12, **1/6** 50, **4/6** 100, **7/6**
Balch's Gem, Beatall Bide's Recruit .. .. Bucks' Tresco	**1/-** pkts. only.	25, **1/6** 50, **2/6** 100, **4/6**	12, **2/-** 50, **6/-** 100, **10/6**

COLLECTIONS.—That you may **TEST** which suits you BEST. 3 plants each, 4 varieties, **our selection, 1/9**; 6 ditto, **3/3**; 12 ditto, **5/6**; 25 ditto, **10/-**

Cauliflowers, transplanted, **8d.** doz. **4/-** 100.

TOMATO "BUCKS' TRESCO."

A Typical Truss.

When properly grown, this is without doubt the most prolific Tomato in existence. **It simply needs generous treatment.** Cultural Hints with all purchases if requested.

Read the following unsolicited testimonial from a gentleman when writing "for more" this season.

"Result, from **30 to 40lbs. per plant**; the **trusses bore** from **45 to 54 Tomatoes.**—The Gardener, Barlboro House, near Chesterfield."

NOTE.—This is **only one of many** received during the last **three** years.

We have a record of a single truss weighing over 12lbs.

Plants, transplanted, ex boxes, ready for potting, **2/-** doz.; 50, **6/-**; **10/6** 100. **Delivery April.**
" ex pots, ready for fruiting quarters, **5/-** doz; **35/-** 100. **Delivery May.**

ORDER NOW. The demand is already great this season.

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Primulas Malacoides alba, ex boxes, scarce, **3/-** doz.
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BARR'S SEED GUIDE contains a Select List of the Best Seeds for the Vegetable Garden, and the most beautiful Annuals and Perennials for the Flower Garden and Greenhouse, with many fine novelties of sterling merit.

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New Success, Yielder, Queen Alexandra, Hebrons, Sharpe's Express, Myatts, Eclipse, Llewellyns, May Queen, Queen Mary, Duke of York, Arran Chief, Puritan, Great Scot, Ninetyfold, Midlothian, King Edwards, Factor, Evergood, Royal Kidney, Northern Star, British Queen, Up-to-Date, Table Talk, Dalhousie, Cornwalls, Triumph, Dalmeny Hero Pioneer, Northern Star, Iron Duke, Scottish Farmer, Mighty Atom, 56lbs. 14/-; 28lbs. 7/-; 14lbs. 3/6; 7lbs. 1/9. Eating Potatoes, 16/4 per cwt. Table Swedes and Carrots, 12/6 cwt. Potato Manure, 10/- cwt.; 6/- 56lbs.; 3/6 28lbs.; 2/- 14lbs.; 1/3 7lbs. Onion Sets, 1/6 lb. Free on rail. Bags free.

When ordering, please state Seed Potatoes are intended to be used for Seed Purposes only.

Collection of Peas, Beans, and small seeds (22 packets) 2/6 carriage paid. 14 packets Flower Seeds, my selection, 1/- post free. Cash with order. Send for full Catalogue. Seed Potatoes, Peas, Beans and Vegetable Seeds.

HORACE TAYLOR, CHATTERIS, CAMBRIDGESHIRE.

THE GARDEN.

No. 2370.—Vol. LXXXI. April 21, 1917.

NOTES OF THE WEEK

THE Prime Minister has sent, through the medium of war agricultural committees, a rousing appeal to all workers on the land, in which he says: "Now I ask all workers on the land to give their best help. . . . We may have to feed our Army and Navy as well as ourselves on home-grown food. Far less is asked of you than is asked of those who by sea face perils of mine and submarine or on land endure the storm of shot and shell. Nothing is required of you except to make good time, and to put your hearts as well as your hands and skill into the work of growing food. Every full day's labour that you do helps to shorten the struggle and bring us nearer to Victory. Every idle day and all loitering lengthens the struggle and makes defeat more possible. Therefore, in the nation's hour of need quit yourselves like men, and as workers on the land do your duty with all your strength."

Gardeners and National Service.—A good deal of misunderstanding still exists on the subject of gardeners and National Service. It should be clearly understood that a gardener exempt from military service who is cultivating not less than one acre of ground devoted exclusively to vegetables will be recognised by the Director-General of National Service as doing work of national importance and should be left to continue his work. Similar considerations will be extended to a gardener who, though cultivating less than one acre of vegetable garden, places his spare time services for the purpose of advice and instruction at the disposal of the local Food Production Society or other organisation formed for the purpose of increasing the vegetable food supply.

Gardening Appointments.—Vacant situations which admit of the carrying out of the above conditions may be filled by men who have enrolled as National Service Volunteers, and may be retained until such time as the men are required for National Service. Except in the case of luxury fruits and crops, provision will be made for the similar retention of the minimum number of skilled men necessary to maintain cultivation in fruit gardens, fruit plantations, market gardens and fruit and forest nurseries, and also glasshouses put to the use of essential food production.

Luxury Gardening.—On the other hand, luxury gardening, bedding-out, lawn tending, path sweeping, path rolling, &c., will enjoy no consideration whatever; on the contrary, in the event of places where gardeners are engaged in such work becoming vacant, they will not be allowed to be filled by men within the specified ages. It is not intended, however, to discourage more than circumstances necessitate the upkeep of collections of plants of great rarity or value the possession of which in this country is a great asset to the horticultural industry. The foregoing regulations are, we believe, the work of the new Horticultural Department, of which Dr. Keeble is the newly appointed Director.

Velthemia viridifolia.—From Mr. J. Butt, The Barnlands, Littlehampton, we have received the remarkably fine flower-spike of Velthemia viridifolia illustrated on this page. This plant is somewhat like a Lachenalia, the flowers being dull red and spotted. It is a native of South Africa and

VELTHEMIA VIRIDIFOLIA.

fairly well known as a greenhouse subject in thi country.

A Promising Hedge Plant.—On page 129 a correspondent draws attention to the suitability of Lonicera nitida for seaside gardens. We know this comparatively new Honeysuckle to be hardy in inland gardens. The flower is not in the least attractive, but its graceful sprays of dainty foliage, together with its low branching and bushy habit, make it an excellent substitute for the ubiquitous Privet and Euonymus. It is readily propagated by cuttings, which may be taken like Privet cuttings and simply trenched in thickly, where they may remain until well rooted.

Salsify.—This is quite a useful vegetable, the increased production of which should be kept in view by all having a reasonable sized plot of land. Salsify much resembles the Parsnip in root growth, and when boiled in the same way as this vegetable is appetising. Seed can be sown from the end of March until May. A deep soil gives good-formed roots, though shape need not be studied too severely. To preserve the roots in winter they are usually stored like Carrots in sand, &c., but they can be left in the ground, and the foliage does not look untidy.

A Hyacinth Commission in 1840.—The question if Dutch Hyacinths can be grown on year by year in England, Scotland, France and elsewhere with the same success as in Holland seems to have occupied the attention of gardeners from time to time. Justice, in "The Scots Gardeners' Director," discussed the question in 1755 as far as Scotland was concerned, and gave a favourable verdict. Nearly a century later (in 1840) a Commission was appointed in France with M. Héricart de Thury as president to watch the growth and behaviour of a collection planted close to Paris for the space of five years—that is, from 1840 to 1845. Their verdict was "les Jacinthes de Hollande ne dégénèrent pas étant cultivées à Paris en terre convenable." We have within the last year or two seen exhibits of English-grown bulbs from Mr. Leak of Wisbech. It would be interesting if he would give our readers his experience.

Lecture on Daffodil Diseases.—We understand that a lecture by Mr. J. K. Ramsbottom on "Investigations in Fusarium Disease of Daffodils" will be given before the Horticultural Club at the Hotel Windsor on the evening of May 8. This lecture had been arranged for the Royal Horticultural Society's Daffodil show which was abandoned.

**** Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade have decided to prohibit the return of unsold copies of any journal to publishers from April 30, and in consequence* THE GARDEN *will be obtainable after that date* ONLY *if ordered beforehand*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Bee-Keeping: Making a Start.—In THE GARDEN of April 7 one of your correspondents, "M. D. H," asks if this is a good time to start bee-keeping. Under ordinary conditions, yes. April and May are the best months in which to make a start with bees, but at the present time there is so much Isle of Wight disease about that I should advise "M. D. H." to consult some local expert before starting. It is of little use to bring healthy bees into a district where the Isle of Wight disease was prevalent during 1916. If "M. D. H." cares to send me his address, I will, if possible, ascertain the condition of the bees in his neighbourhood and give any information regarding the starting of an apiary that is in my power.—L. BIGG-WITHER (First-class Expert, British Bee-Keepers' Association), *Birdwood, Wells, Somerset.*

Two Early Saxifrages.—Saxifraga Burseriana Gloria and S. oppositifolia have just opened their buds simultaneously. Though they are late, these little gems of the early spring are even more welcome than usual after the long hard weather Bright with promise and hope of better days, they look as if they would like to cheer up the withered spirits of so many of their little neighbours. The former, with its blue-grey rosettes, its brilliant crimson stems and wide-spreading, milk white flowers, affords a lovely combination of colour, and yet, withal, a classic dignity of line curiously imposing in so lowly a plant. S. oppositifolia, if it lacks "drawing," is not less beautiful in its own way. The rich shining green of its foliage and the wonderful purple of the abundant flowers is a combination not merely uncommon, but one which possesses an irresistible fascination. This species is also a shy bloomer, and that doubtless gives zest to its charms. We have ours perched on the brink of a miniature precipice, where it is very dry at times and very sunny. But it soon seems to tire of the same spot, grows fat and lazy, and ceases to bloom. If, however, it is dug up and divided every two or three years, it is perfectly happy.—A. T. J., *North Wales.*

SAXIFRAGA BURSERIANA IN THE ROCK GARDEN.

Butterflies in France.—Lieutenant G. F. Drayson, 43rd Field Ambulance, B.E.F., France, writes: "I was very interested in the correspondence in your pages last autumn regarding butterflies in England during last summer, as I have seen a number of varieties out here which are quite uncommon at home. In one small copse within an hour I saw a Purple Emperor, several White Admirals, two Commas and two varieties of Fritillary, including the Silver Washed. Red Admirals were not very common last autumn, but Peacocks were plentiful. In September the Pale Clouded Yellow was always to be seen whenever one went past a Lucerne field. I do not think I saw one specimen of the deeper variety. I should like to learn whether 1916 was a good year for the Clouded Yellow at home. I saw a number of specimens of that fine insect the European Swallow Tail, but unfortunately this is not found at home. The Marbled White is abundant in a number of places out here, but at home it is plentiful only in a very few localities."

Damage by Frost.—Evidence of the havoc wrought by the recent great frost is daily becoming more visible. One of the most surprising results which I have noticed has been the annihilation of every plant of Maggie Mott Violas which carpeted a bed of Roses. I noticed last summer that these Violas were attacked by the rust fungus Puccinia ægra, but it did not apparently affect the health of the plants then; it seems probable that the presence of this parasite had so undermined the constitution of the Violas that they were unable to resist the action of the frost. Violas which were free from the fungus have apparently escaped. I shall be much interested to hear if others have noticed the same result with infected plants. All the Kangaroo Apples (Solanum laciniatum) are quite dead, as also are all plants of Ozothamnus thyrsoideus which I have seen. Cytisus racemosus has been terribly crippled but not killed, and Benthamia fragifera has also suffered severely. Clematis cirrhosa has stood the winter bravely and is just coming into flower in a sheltered corner. N. G. HADDEN, *Porlock, West Somerset.*

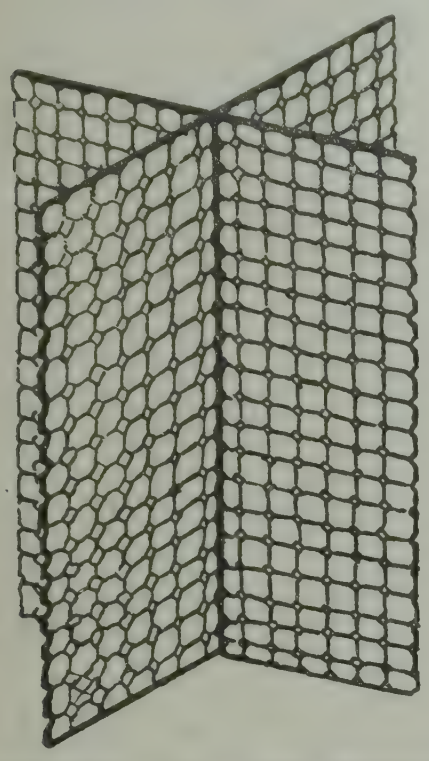
Staking Runner Beans.—Five years ago I bought 6-feet wire-netting and eight 9-feet old gas-pipes. Cost equalled two and a half years of wood stakes. The Beans grow up it perfectly satisfactorily. To erect same it takes many times less compared to poles; to remove, a little longer, owing to picking off the dead haulm. The wire-netting is good for many years more and the poles will be good fifty years hence. Another wrinkle.—Paint wood seed-boxes with Sideroleum, a sort of tar preservative. Paint the bottom inside and out and half up the sides; it keeps away all insects from the seed boxes, and, if stood outside, no slugs will come near it; besides, it preserves the wood box.—W. F. M. COPELAND.

Trenching *v.* Double Digging.—I always read with more than ordinary interest anything from the pen of Mr. Beckett, and usually entirely agree with his advice on things horticultural. In a recent issue of THE GARDEN, however, he advocated a method of preparing ground that I have more than once observed to be disastrous. He maintains that the subsoil should invariably be brought to the surface, no matter what its quality may be. Of course, I notice that Mr. Beckett somewhat qualifies his assertion by mentioning the application of a dressing of chalk lime. This to numbers of gardeners is unobtainable, and the putting in of drains as advocated by Mr. Beckett is also practically impossible to many. Here is my experience of deep trenching on a good loam with a sandy subsoil. It was a new garden which had been well farmed for years. The first year the entire garden of three acres was trenched 2½ feet deep, the subsoil being brought to the surface and generous dressings of farmyard manure applied. The result was entirely disastrous, not a single crop succeeding. The following winter the ground was again trenched and, of course, the original surface soil brought to the surface. Finer crops from that time onward no one could desire. I was a very young gardener then, but I shall never forget that experience. Some years later, on a very stiff grey clay, I saw the same thing happen, the only crop that succeeded the first year being Carrots, and the man had bored holes for these, filling up with prepared soil, or they also would have failed. Experiences such as these could be multiplied, and do not encourage one to follow such methods.—C. BLAIR, *Preston House Gardens, Linlithgow.*

Growing Potatoes in "Lazy-beds."—I was much interested in the note on this subject in "Notes of the Week" in the issue of April 7. When I was a boy helping my father on his farm in Cheshire, I had some experience of growing Potatoes in "lazy-beds," and have now a lively recollection of the very heavy crops of fine tubers grown in the rather retentive soil there. The soil was mainly prepared by means of farm implements and horse power, but all the finishing work was done by fork and spade as described in the note above referred to. In those days that grand old variety Skerry Blue was extensively grown in the North and North Midlands. It was a very heavy cropper, a good keeper, and of fine flavour. It had, however, two defects, viz., deep "eyes" and a tendency to produce the tubers near, and often on, the surface. The "lazy-bed" method was of advantage, as the

"soilings" or earthings adequately covered the tubers and so prevented "greening" before lifting. This method would be effective in the case of many newly broken allotment grounds.—GEORGE GARNER.

A "Tip" for Egg Preserving.—The great disadvantage of the water-glass method of preserving is to my mind the fact that those eggs which have



COMPARTMENTS FOR EGG PRESERVING.

been the shortest time in pickle have to be used first. The following device is offered to your readers, free of all patent rights, to obviate this disadvantage. Take two pieces of fine-meshed galvanised wire-netting of the same height and diameter as the pail used. Bend at right angles and fit to the pail. Fix them together to form an × as shown in the sketch, and the pail is then divided into four compartments, the first of which to be filled can be the first to be used.—E. A. BUNYARD.

A Word for the Sparrow.—It is seldom anyone says a good word for the sparrow, but he renders good service to me every summer in clearing the Roses of aphides. Though many young and succulent plants are destroyed by sparrows, they do less damage if there is a plentiful supply of water.—H. P.

Lonicera nitida in a Seaside Garden.—I read with interest the article on "The Severe Winter and Its Effect on Some of the Newer Plants and Shrubs" by Mr. George Dillistone, in which he mentions Lonicera nitida. He need have no anxiety as to its thriving in sea air, as I have had two specimens of this plant in my garden, which is situated in the West of Scotland, not 200 yards from the sea. Since planting them two years ago they have both thriven well and seem entirely unaffected by either sea air or spray, which during stormy weather is carried into the garden. I find it very easily increased by cuttings and can endorse your contributor's appreciation of it.—JAMES C. GILCHRIST.

Primula Allionii.—This is a charming little Primula for growing in pans in the alpine house. Last year it was in full bloom in February; now (the end of March) its stemless flowers, of a beautiful pink with a white eye, have just opened among the tightly packed, grey-green, toothed leaves. It seems of easy culture in a limy, sandy soil in a sunny position.—M. C. D.

FOOD VALUES

By F. J. CHITTENDEN, F.L.S.

BEFORE the war the choice of crops to grow in our gardens was determined by two considerations—either some quality in them gave us pleasure, or their cultivation left a sufficient margin of profit to return interest on our outlay. The first consideration was very complex, as various as the tastes of mankind, and in any case incommensurable; the second was measured in terms of money and depended not only upon the cost of production and distribution, but upon the relation between supply and demand. The demand was not without its connection with the quality of pleasure-giving.

The events of the past two years have combined to produce a shortage of food which is likely to become more marked as time goes on. The demand for food, since a greater proportion of the population is engaged in hard physical work, cannot be expected to fall; the available labour and the means of transport on land and sea are bound to be diminished; while the supply of fertilisers is likely to be inadequate to maintain the soil in a high state of fertility. The demand for food is thus likely to be greater than the supply, and it is therefore important from every point of view not only that every effort should be made to cultivate all suitable land that can be made available, but that crops giving a high return in food value should be grown. In other words, we are called upon to judge the merits of a crop, not by the pleasure its cultivation or consumption may give, nor by its money value, but by a new standard—its actual value as food. A natural outcome of the fixing of maximum prices for the consumer is the fixing of minimum prices for the producer; any other method of procedure would defeat its own ends and must result in chaos or even ruin. It were far better to leave prices to adjust themselves, or to make the State the direct intermediary between producer and consumer, since it seems impossible to eliminate the middleman. Home and local production of food helps enormously in reducing the difficulties of feeding the people, since then the need for the middleman and the demand on means of transit are both greatly reduced.

The actual food value obtainable from a given area is by no means easy to arrive at with accuracy. Everyone knows that the main function of the nitrogenous or albuminoid material in food is to build and repair tissue waste; while sugars, starch and the like supply the energy required by the body for the performance of its functions and to do external work. The indigestible fibre of foods and their bulk undoubtedly play some part in the economy of the body, and certain substances not recognisable by ordinary chemical analysis are essential to its health. It seems certain that the sapid Onion, so beloved of mankind since before the time of Moses, yet so low in the scale of food value as measured in calories, owes some of its virtue to these subtle substances. One may suspect that the Asparagus and the Tomato and many another plant may have greater value than the analysis shows, because of these things, and they must not be entirely neglected in a scheme of cropping.

Unfortunately, the chief vegetables rich in nitrogen give a comparatively small return in bulk of crop from a given area, and greater dependence has to be placed upon meat, fish, milk, cheese and eggs, and upon Nuts for the supply of flesh formers, than upon Peas, Beans and the like. Beans probably give greater value than Peas.

Of other crops valuable for their sugar and starch, a measure of value can be obtained in terms of heat-units or calories, a calorie being the amount of heat required to raise the temperature of one litre of water through 1° Centigrade. Such values are, of course, only approximate. "One man's meat is another man's poison," and the figures do not take into consideration personal differences with certain foodstuffs. One variety of a given crop will give a higher yield than another; all the varieties of the same kind of plant do not yield the same number of calories from a pound (a subject we are likely to hear more of in the future), and so on; and we have to assume an average yield and an average calorie yield for each crop which has to be eaten by an average person.

In selecting crops to grow, our choice has to be governed by the suitability of soil and site to the crop, the season at which it matures, and provision of variety in food as well as the absolute food value obtained. But bearing these things in mind, the greater part of the land at disposal should be cropped with vegetables which give a high yield in food units, and which may be stored or available over a long period.

The gross yield of food units (assuming for purposes of comparison a constant average crop yield and composition) is not difficult to arrive at. It is the useful yield in pounds of the crop or crops from a unit area multiplied by the calorie yield per pound. Allowance must, of course, be made for the time the crop occupies the ground if it interferes with the growth of a second crop, for the seed used, manures, labour and the like, all of which go to reduce the net yield from a given area. Judged by this standard, of all our garden crops the Potato comes first, Beet is a very good second (and ought to be more widely used as a vegetable—not only as a salad), Jerusalem Artichokes third, and Parsnips fourth. These give considerable variety in the nature of foodstuffs as well as in flavour, for Potatoes depend for their value on starch, Beet on cane sugar, Jerusalem Artichokes on a sort of soluble starch called inulin, and Parsnips on both sugar and starch.

A READER'S SKETCH OF PRIMULA ALLIONII

NOTES ON CULINARY PEARS

IT is, of course, a *vexata quæstio*, but I have always thought that one of the misfortunes of this country has been the ease with which we have been able to import food that might easily be produced to a considerable extent at home. And, as out of evil good often comes, so I look upon the Government prohibition of import of tinned fruits as a blessing in disguise, because it will tend to make people rely more upon home-grown supplies and teach those who have gardens to grow some of the hardy fruits which are still so strangely neglected.

Chief among these I should place cooking Pears, for few people seem to grow them, and even in a county like this, where most Pears thrive so well, it is well-nigh impossible to purchase any in the shops after Christmas is past. It is, therefore, not to be wondered at that people fall back on tinned Pears, vastly inferior though they are to the fresh fruit. In the autumn there is generally such an over-abundance of fruit of all kinds that it is scarcely worth while for a private grower to plant varieties like Beurré Clairgeau, which does not keep past November and is of moderate quality into the bargain. For this reason I would recommend people with small gardens to plant long-keeping sorts, as a dish of stewed or baked Pears is very acceptable in the early months of the year when fruit is getting scarce. My great-uncle, the Rev. E. Bartrum, D.D., author of "The Book of Pears and Plums," paid much attention to culinary Pears, and I well remember seeing in his garden at Wakes Colne, near Colchester, some giant specimens of Uvedale's St. Germain, a variety whose size and appearance are more striking than its quality. If I were planting one tree of a cooking Pear,

Catillac would be my choice. As a bush on the Pear stock this variety is a strong grower and needs a good deal of room, but it is usually a fair cropper and the tree is hardy. The fruit is roundish, very large and heavy, and the crisp flesh is pleasantly perfumed with musk. Like most late Pears, it should not be gathered until late October (given protection against birds), and is in season from December to April. In a good season that fine old variety

General Todleben is of great merit as a culinary Pear, but the fruits want to hang late and do not mature if the autumn is cold. In a bad season they are woody and tasteless, but as a rule they are sweet and of a pleasant aroma. The fruits from which the illustration was made were grown in my father's old garden on a handsome pyramid tree which usually bore pretty freely. When the tree is well treated they are of large size, long and pyriform, yellow and russety, and are in season from December to the end of February.

The Black Pear of Worcester is, of course, popular in this part of the Midlands, and since Christmas I have been enjoying some excellent fruits grown by my father-in-law on a fine standard tree in his orchard, which is close to the Severn. This is the Pear mentioned by Parkinson (page 592):

GENERAL TODLEBEN, A GOOD STEWING PEAR.

"The Worster peare is blackish, a farre better peare to bake (when as it will be like a Warden, and as good) then to eate rawe; yet so it is not to be misliked." All the trees of this variety I have seen have been standards on the Free stock, and as it is a strong grower it is not a sort for a small garden. The fruit is large and solid, obovate in shape, and of green and brown colouring with a slightly reddish tinge. The flesh is coarse, but if well cooked the flavour is quite good.

Uvedale's St. Germain was grown by Dr. Bartrum mainly as a cordon, and he used to exhibit at the local shows some enormous specimens which he had produced by high feeding. Frankly, it is not a connoisseur's Pear, and when I see people admiring it I think of the scathing remark that "The Virginian" (in Owen Wister's clever book) made to the "drummer" (United States commercial traveller) who claimed his acquaintance. "I don't forget you," said the drummer. "I knowed your face right away. I seen you at Chicago all right." "Maybe you did," said the Virginian. "Sometimes I'm mighty careless what I look at."

I believe it was Mr. Alfred Pearson who once told me that this is the Pear that certain Covent Garden fruiterers used to hire out for adorning the table at City banquets. In *ante bellum* days there was little likelihood of a guest tackling a 2lb. Uvedale after a ten-course dinner; but with all due respect to Lord Devonport there is no knowing what might happen now!

As I have already remarked, quality is not a strong feature with Uvedale's St. Germain, but if kept until the New Year and then stewed it will be found juicy and pleasantly flavoured. By the way, it is curious that this Pear should have as many as twenty-two synonyms, mostly French, of which Belle Angevine and Belle de Jersey are the best known, because it was raised in England in 1690 by Dr. Uvedale, a schoolmaster of Eltham, Kent.

While on the subject of culinary Pears, is there any other fruit about which the cookery books give so much bad advice? Nearly every recipe advises you to add lemon, allspice, stick cinnamon, and a clove or two, to say nothing of a glass of port wine. People who practise this nonsensical kind of cookery certainly need not trouble what varieties they plant, for any flavourless trash will do. Nor is it in the least surprising that people who eat fruit cooked in this highly spiced way should find it unwholesome. Here we like Pears cooked *au naturel*, put in a stew jar, just covered with water and cooked with a *little* sugar until they are soft. There is no time limit for cooking. Some sorts, like Black Worcester, will stand twelve hours' stewing and are all the better for it. Lemons are good in their way, but they are the curse of most English kitchens, and Mrs. Beeton is much too fond of them in her recipes for cooking Pears. In Parkinson's day baked Pears were held in high esteem, and, in addition to the "Worster," he mentions several varieties, such as the "Gilloflower" and the "Turnep," as being suited to this purpose, though the last named scarcely sounds alluring. And he sums up his notes on Pears by remarking that "the most excellent sorts of Peares serve to make an after-course for their masters table, where the goodness of his Orchard is tryed. They are dryed also, and so are an excellent repaste if they be of the best kindes fit for the purpose They are eaten familiarly of all sorts of people, of some for delight, and of others for nourishment, being baked, stewed or scalded." Readers of THE GARDEN are safe in taking Parkinson's advice to plant "the best kindes," and as I am at present planning an orchard, I hope that those who have a knowledge of the subject will amplify these notes with their own experience, for (as Sir Philip Sidney says) "all is but lip-wisdom which wants experience." I need hardly add that many dessert Pears are excellent for stewing when they can be spared for the kitchen. They should be cooked just before ripening.

Kidderminster. ARTHUR R. GOODWIN.

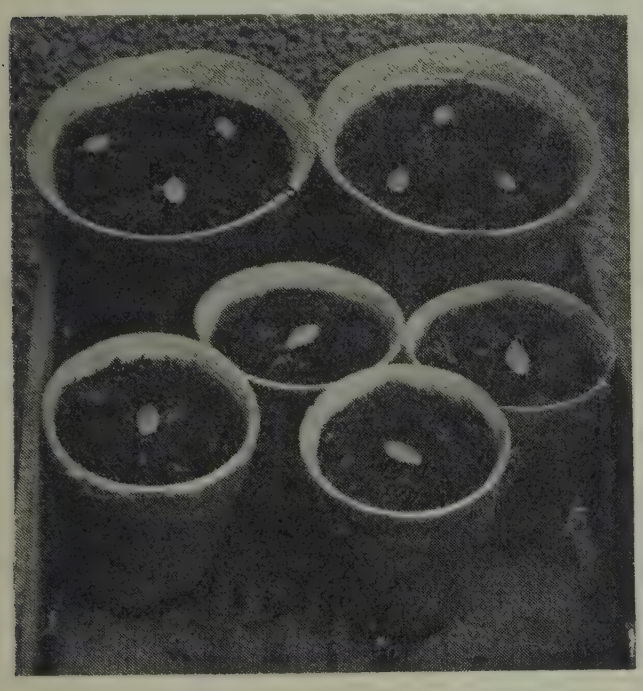
CAULIFLOWER DUAUCOURT

THOSE who have not grown this Cauliflower would do well to do so. It is a variety much superior to many, coming into use in July, following Walcheren. Seedlings should be planted out now. The virtue of this Cauliflower consists in the closeness of its heads, combined with purity of colour and exceptional flavour. As to its history I am unable to say. I saw it growing in the kitchen garden at Aldenham House last year. E. M.

HOW TO GET EARLY BEANS, MARROWS AND RIDGE CUCUMBERS

ALTHOUGH it is yet too early to sow seeds of French and Runner Beans, Vegetable Marrows and Ridge Cucumbers in the open garden, the beginner who has a cold frame, or even a moderately deep box and a few good-sized pieces of glass, may make a start with these plants. The average amateur still has to realise that the Beans under notice will transplant as readily as Tomatoes. Marrows and Ridge Cucumbers he may know will do so, because the general practice is to buy a few plants from any chance dealer that may come along, plants that have become debilitated by too much warmth and insufficient air. Seeds are cheap, and home-raised plants are usually far the best.

Sowing the Seeds.—In the issue for April 14, page 125, illustrations showing the draining of seed-boxes and the sowing of other seeds were given, and the box shown in Fig. 1 has been drained and filled with soil in precisely the same way as then advised. Ample crocks or broken pots were placed over the drainage holes in the bottom, then some rough soil, and finally the sifted material. As a good quantity of Beans are required for a row, boxes are the most economical receptacles to use, as they hold a number of seedlings and do not take up a lot of room. They ought not to be less than 3 inches deep. The soil should be composed of the best loam obtainable two parts, well-decayed manure one part, or, failing this, Hop Manure at the rate of a double handful to each peck of soil, and a good dash of coarse sand. The seeds ought to be sown in rows as shown in Fig. 1. It will be noted that by this arrangement each seed has the maximum amount of space, and is really in the centre of a circle of its fellows. Nothing is gained and much may be lost by thick sowing. Cover the seeds with an inch of finely sifted soil, give a watering with a fine-rosed can, and, after allowing the whole to drain, stand quite level in a cold frame. Both Runner and Dwarf French Beans may be raised in this way.

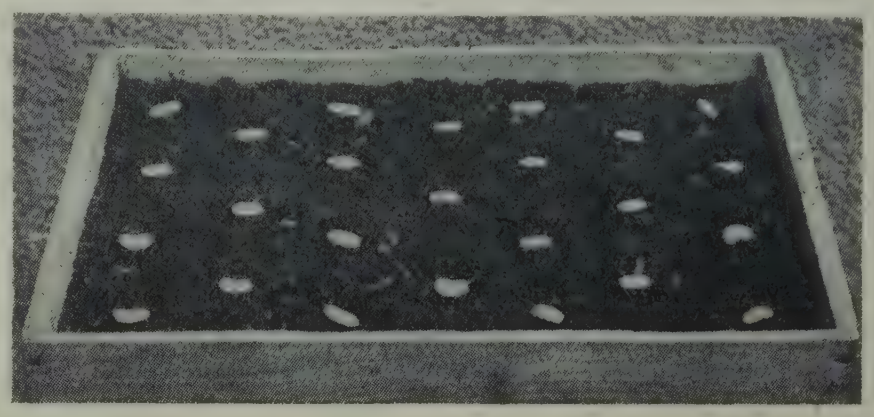


2.—SOW VEGETABLE MARROWS AND RIDGE CUCUMBERS IN POTS AS SHOWN.

Marrows and Cucumbers.—As the average amateur requires only a few of these, it is best to sow them in pots. I prefer to sow the Marrows three in a 5-inch or 6-inch pot, and the Cucumbers singly in 2½-inch pots, as shown in Fig. 2. For the purpose of illustrating this, Marrow seeds were also used in the small pots, as their large size renders them more conspicuous. The pots must be clean, dry and well drained, and soil similar to that advised for the Beans may be used. If frame room is plentiful—which is not at all likely at this season — the Marrows could be sown separately in the smaller-sized pots, though these are none too deep for the roots, which are coarser than those of the Cucumbers.

After-Treatment. — As already stated, a cold frame is an ideal place for the seed-boxes or pots after sowing and watering; but in this spring frames are filled with other vegetable seedlings. If this is the case, procure a box about 8 inches deep, make a few holes in the bottom to allow water to run away, and stand the receptacles in this, as shown in Fig. 3. A pane or two of glass over the top makes a miniature frame that answers this and many other purposes quite well. If desired, the bottom can be knocked out of the box, and an earthen floor, coated with ashes, used.

As soon as germination has taken place and the seedlings can be seen pushing their way through the soil, ample ventilation must be given, taking care, however, to avoid as far as possible cold, cutting winds blowing direct on to the young plants. But remember that robust, short-jointed plants are the ones that will give the best account of themselves when planted out. The positions where they are to go should be well dug and manured as soon as possible, so that by the end of the third week in May, when the seedlings may be safely transferred to the open, the soil will be in good condition. G.



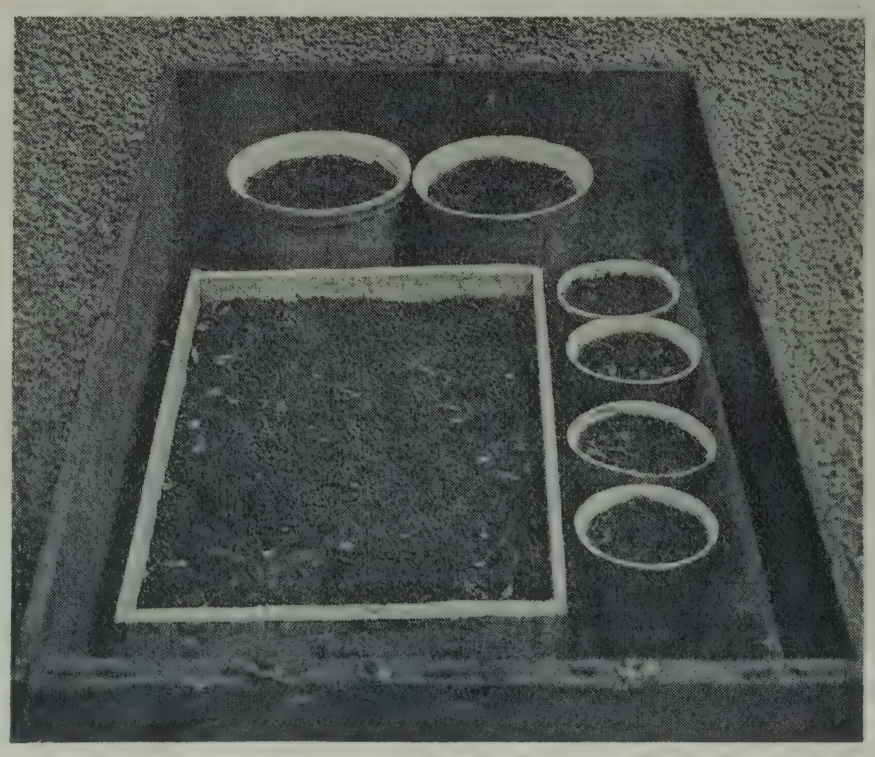
1.—BOXES 3 INCHES DEEP ARE SUITABLE FOR SEEDS OF RUNNER AND DWARF BEANS.

THE GROWING OF VEGETABLES

By Mrs. C. W. Earle.

ONE of the bright spots in these dark days is for vegetarians; they know how to feed themselves and have no dread of being ill from carrying out the Government orders. I have been a vegetarian for thirty-four years and have not had a doctor in the house for myself except once, when I was thrown out of a carriage. The wound had to be sewn up, but the doctor told me it healed unusually quickly, and he went away with one of Dr. Alexander Haig's valuable books under his arm!

I have come now to a vegetable which I think I may say is always grown in every garden, but very seldom eaten. I refer to the Parsnip. The gardeners and some servants like it, but in my recollection it was never served in the houses of the well-to-do, except on Good Friday as an accompaniment to salt fish, when the children would eat neither, but reserved to themselves large helpings of egg sauce! Now, Parsnips will be appreciated by many; they are more nourishing than Potatoes, and so good to serve on no-Potato days. As with Salsify, it is well to boil them first; then cut them up and cook them with a cheese sauce like macaroni *au gratin*, which is the non-vegetarian's one idea of a dish for the strange friend who is coming to luncheon and does not eat meat! Pickling Onions are not often grown, because pickles are considered unwholesome; but they have great merits. The two best kinds of small white Onion are The Queen and Silver-skinned. Braised in a little butter they are very delicate, and an excellent addition to rice or macaroni. Chives, or Rush Onions, are perennials and need nothing but dividing now and then in March. The young green shoots are excellent when cut up with Chervil as a flavouring for any salad. Gerarde grew them in his old



3.—A BOX ABOUT 8 INCHES DEEP COVERED WITH PANES OF GLASS IS A USEFUL ADJUNCT TO A COLD FRAME.

London garden, and recommends them to be eaten with oil and vinegar, "being first boiled, which is very good for old people who are dull and without courage; it rejoiceth and comforteth the heart and increases their strength."

Corn Salad, or Lamb's Lettuce, may be sown from March to September, and will grow anywhere if thinned out; but the important sowing for winter use is made in August, as it is invaluable in winter either cooked or raw. The salad used to be served in Paris restaurants, with or without Beetroot, invariably all the winter and spring, in my day. I say nothing about Mushrooms, as I do not think cultivated Mushrooms are wholesome, but it is an amusement to some amateurs, and not very difficult to carry out for those who have horses and a shed or dark pit in which to grow them.

BRUSSELS SPROUTS

DURING the past winter these have not been a success in our district, many growers admitting the crops they have gathered to be the lightest for many years. Upon enquiry I find the seed which supplied the plants was obtained from the same source, which points to the fact that there may be other reasons besides the unsatisfactory season to account for this.

One of the other reasons may be found in the fact that stable manure has become too costly to allow its use on such a liberal scale as in former years. This, together with the desire of most growers to get more from their garden by planting closer than is advisable, would, of course, account for many light crops of loose sprouts.

Be this as it may, I cannot help thinking that the chief reason for many light crops lies in the matter of variety or an indifferent strain of a particular variety, and I am convinced that the man who is responsible for a supply throughout the winter will do well to ignore the cheap packets of seed now obtainable from many shops other than seed stores, and pay a fair price for a packet from a firm having a reputation to maintain. As in former years, The Bullet, Dwarf Gem, Solidity and President Carnot have done well with us, and I am still of opinion that the first two named are among the very best for small gardens.

Oxford. F. R. C.

TULIPES PLURIFLORES

By THE REV. JOSEPH JACOB.

IT is eight years since M. G. Bony of Clermont-Ferrand in France surprised the bulb world by introducing a race of Branching Tulips. For these he was awarded, in 1909, the Grande Médaille d'Argent de la Société Nationale d'Horticulture de France, and, later still, a certificate of appreciation by the Royal Horticultural Society of England. The original bulbs from which these new-comers had been raised were found in an old French garden, and were brought home years ago as one of the prized gifts of plants which were always given to M. Bony on the occasion of his yearly visits. Up to the present time, as far as I am aware, there is only one variety in commerce, M. S. Mottet. This is a fine tall plant which, when it is in perfection, has, first, a large branched main stem carrying at its extremities between three and five long, egg-shaped blooms, which begin life pure white, but become flushed with a rosy pink as they age; and, secondly, two, or sometimes three, smaller stems issuing like the larger one directly from the bulb itself, and each one bearing a bloom which in size is, as a rule, midway between the largest and the smallest borne on the main stem. I am a believer in the future of the "branched" race. That it has not attracted the flowering public as yet I cannot deny, but I believe the reason is that its proper treatment has not been understood, and that everyone has taken for granted that its culture presented no more difficulties than that of the Darwins.

The royal road to success consists in good cultivation and liberal feeding while the bulbs are growing, followed by a rigorous weeding out of all but the very largest when planting-time comes round. Thus, in order to have a sufficiency of probable certainties, a fair-sized stock is a necessity; roughly speaking, I would say that if 100 bulbs are wanted, there would have to be something like 500 always "grown on" in a nursery bed. This, most likely, is "the trouble" and, at the same time, the explanation of Tulipes pluriflores remaining in the shade.

One would like to know more about the garden and its treasures wherein M. Bony found his prize.

TULIPES PLURIFLORES, FROM MONCORNET'S "LIVRE NOUVEAU DES FLEURS," PUBLISHED IN 1645.

More than one Frenchman has in time past made a speciality of this elusive race; M. Marcel Poulin of Coulanges-sur-Yonne and M. Thiébaut-Legendre, marchand grainier, of Paris are names to be remembered in this connection. The former had a large collection of them in the middle years of the last century, and the latter is known in connection with the double Roi des Bleus—a pluriflore figured in the *Revue Horticole* for February 1, 1882. But as

> "Woman's at best a contradiction still"
> (Pope's "Moral Essays.")

so are these Tulips. M. Poulin found it was a case of "first they would and then they wouldn't, and then they said they really couldn't." Is it, or must it be cultivation? Can a reliable race ever be raised? Whence came the "pluriflores" of the past? There were such plants. We have pictures of them. I do not think they were all copied one from another, although undoubtedly some were, as, for example, Moncornet's was from Clusius'. It is quite likely that somewhere or another specimens were always to be found. In "The New Gardeners' Dictionary," in 1771, John Dicks, gardener to the Duke of Kingston, describes and figures what he calls a Cluster Tulip. Although the illustration is singularly suggestive of certain pictures in seventeenth century flower books, the letterpress appears to describe actualities. But there you are, don't you know. Going still further back and jumping more than a hundred years, we find in Merian's "Florilegium Renovatum," published in 1641, on a plate numbered eight, a "Tulipa serotina major polyanthos, rubra vel lutea"; in Besler's "Hortus Eystettensis," in 1613, a "Tulipa polyanthos præcox rosea colore mixta"; and, earliest date of all, in Clusius' "Rariorum Plantarum Historia" of 1661, a "Tulipa serotina poluklades major," which has served as a copy, or, at any rate, a concrete inspiration for a picture in more than one flower book (including Merian's "Renovatum") of later years. Clusius generally had a good deal to say, and although his remarks about this Tulip are not as extended as is frequently the case, he mentions that he had in the year 1591 plants with six branches (stems), each bearing a flower.

The illustration is taken from a scarce book published at Paris in 1645 by Baltazar Moncornet, called "Livre Nouveau Des Fleurs." (The illustrations were made for the use of the goldsmiths of the period.) It is taken either from Clusius' or else from an earlier edition of Merian's "Renovatum," the "Anthologia Magna" of de Bry. I refer to the Tulipe pluriflore on the left with the rounder petals. The original of the pointed plant I am unable to trace with the books at my disposal. One wonders why, in this small collection of twelve plates, two of these Branching Tulips were selected. Were they popular flowers 300 years ago, or was it that their artistic aspect appealed to the designer? This last suggestion is quite likely, for, on showing my "Hortus Eystettensis" to a friend, the sight of the T. polyanthos evoked this remark: "Oh! what a pretty picture that middle one [the T. polyanthos] makes." I believe there is a future for Tulipes pluriflores; but it seems likely they will always be wayward in their blooming. Even if no anybody's race is ever evolved by hybridists or selectors, it may be that the difficulty and uncertainty will appeal to some gardeners. They will have their reward in this.

HENBANE AS A MEDICINAL HERB.

"HENBANE (Hyoscyamus niger) is an important medicinal herb. There are two varieties of Henbane—the biennial and the annual. The biennial is used in medicine. 'Henbane cultivation should be carried out as follows: The seed must be sown in the open, as the seedlings will not stand transplanting, but must be thinned out in the rows. The seeds, however, are prone to lie dormant, and the crop is a little uncertain, sometimes drying in patches. Commercial Henbane seed is often kiln-dried and useless for sowing. The annual variety is never sown. This herb is smaller, and does not branch so freely as the biennial plant. The leaves are gathered when the plant is in flower in June and July. The root is not used in medicine. The fresh herb loses 80 to 86 per cent. of its weight in drying.' Henbane seed is very small and light, and must be well mixed with fine dry soil as it is sown.

"The official Henbane leaves of the British Pharmacopœia are the leaves of the biennial herb, but the dried commercial drug imported from Germany and Russia, mostly of another species, is derived from the wild annual. The English-grown plant varies much in price, from 3s. to 6s. per lb. In the wild state Henbane is found growing on rubbish-heaps, about village greens, and in sandy waste places near the sea. It is a coarse, hairy, erect, branching plant with an unpleasant smell and rather ugly flowers with yellowish petals and purple veins. The steam from the seeds put in a basin with boiling water is a popular remedy in some parts of the country for toothache. The small white cylindrical embryo of the seeds is thus forced out of some of them, and mistaken by ignorant sufferers for 'worms' coming out of their teeth! The leaves, root and seed of the Henbane are poisonous and produce general paralysis of the nervous system. The poisonous properties of the plant are due to the presence in its tissues or sap of two alkaloids, hyoscine and hyoscyamine. German Henbane is not as a rule so rich in these alkaloids as the English-grown herb.

"Mr. Holmes' valuable remarks about Henbane show why a good crop of this plant should be so remunerative to the expert grower.

"'. . . The wild plant occurs in two forms, and has been found wild in sixty British counties, or, rather, twice the number of counties that Belladonna occurs in; and yet it always exceeds the latter in price, because it nowhere occurs profusely, and is found under circumstances that appear at first sight to be quite contradictory, growing in some places on sandy spots near the sea, in others on chalky slopes, and in cultivation flourishes in a good loam. When sown, the seed sometimes comes up quickly and flowers the first year, when only a few inches high, especially in a dry spring and summer. In other cases it produces only large leaves, in the autumn, often more than a foot long, and the second year it sends up a large branched flowering stem; but sometimes the whole of the foliage is destroyed by the larvæ of a leaf-mining fly, Pegomyia Hyoscyami, and the crop is rendered worthless in a week. But sometimes the seed will not germinate the first year, or even the second, and when the field has been ploughed and some other crop sown, up it comes. A curious case occurred some years ago at Weymouth, showing that the seed under certain circumstances may retain its vitality for a very long period.

"'A house on the Parade, which had been built a hundred years, was pulled down, and the next year there appeared on the cleared building-ground numbers of Henbane plants, although this plant does not occur in the neighbourhood within many miles of the spot. Even if Henbane seed comes up strongly the first year, when the large autumnal leaves decay away the large terminal bud is often destroyed by one of the many macro-lepidopterous caterpillars that, like the Agrotids, hide themselves in the soil; or floods may rot the plants in winter if grown on level ground.

"'It would probably pay well to cultivate Henbane in sandy ground near the sea, especially on rich estuarine soil, or in sandy ground in such places as the Golf Links at Westward Ho, or Dawlish Warren, where the seaweed could be used as manure and there is sufficient moisture at a depth of 2 feet for the roots to reach it. It obviously is therefore not a plant for profitable cultivation in small gardens, especially as the yield of dried leaf is extremely small.'"

(From "Profitable Herb Growing and Collecting," by Ada B. Teetgen.)

THE COMMON HENBANE (HYOSCYAMUS NIGER).

TRAPPING MOLES

THE difficulty which many amateurs experience in catching moles would be considerably reduced if greater attention were paid to the selection of the run. We see the tortuous surface workings, that ugly tracery of upheavals which does the most damage, and set the trap in one of these tracks. This is a mistake, for the mole is on a feeding expedition when he travels in these surface runs, which he makes as he goes along; and as he rarely, or never, passes the same way twice when on such excursions, it is obvious why traps placed in such holes fail to catch. Even if the pest did use a surface passage a second time, the hole is usually in such soft earth that the animal, in pushing the latter along in front of him, would spring a trap before it could have the desired effect. The right hole to select for the mole trap is one of those permanent arteries which lie from 4 inches to a foot below the surface. These are the highways which the animal uses every time he goes to or returns from his feeding grounds. You will generally come across one of them as it approaches a hedgerow or stream, or it may indicate its presence at the edge of a path or open drain. Once such a run has been discovered, it is the easiest thing in the world to catch such an unsuspecting creature. As for the nonsense written about the mole's sense of smell necessitating the use of gloves when trapping, and other minute details, believe them not. Nor is the mole-catcher possessed of the strange secrets he is usually credited with possessing, though it is doubtless part of his "profession" to invest the latter with all the mysteries he can muster.

Worms pickled in strychnine will kill moles if dropped in the runs, but such virulent poison is a nasty thing to have about, and quite unnecessary when traps can be efficiently employed. An acre of land which I took over for garden work two years ago was infested with moles, but I soon eradicated them with the iron traps which work on the pincer principle. If a stray visitor from the adjoining fields now happens to appear, he is not often at large more than a couple of days. The odd part about it is that generations of moles seem to use the same main track, for during the last ten years I have trapped some scores in precisely the same hole. A. T. J.

ANEMONE BLANDA INGRAM'S VARIETY

THIS handsome variety of Anemone blanda either originated or was selected by Mr. Ingram at Belvoir, and is perhaps the finest of the deep blue varieties of the Greek Windflower. The colour is an intense deep blue, and the flowers are large and well formed. I had it from a Dutch source, but I expect that it is still obtainable from British nurseries, whence it may be had in pots for planting at any time. I prefer to plant A. blanda and its varieties about 2 inches deep. February and March may be reckoned as its normal times of flowering.

Dumfries. S. ARNOTT.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Vegetables Under Glass.

Cucumbers.—All plants during this inclement weather require more artificial heat, which, with the absence of sun, renders the plants liable to a loss of chlorophyll, or colouring matter, in the leaves. This is a strong reason why the growth should be kept thin, so that the leaves will obtain all the available sunlight. Stop the shoots one leaf beyond the fruits, which should be severely thinned to ensure the plants not being overcropped. Always use tepid water for the roots and for syringing, but little of this will be required.

Tomatoes advancing to the colouring stage should have a temperature of not less than 55° by night, and should be freely supplied with weak stimulants. All plants in successional stages should be transferred to larger pots as required. To be cramped at the roots during their early stages of growth means checked progress, resulting in weakly leaves and smaller fruit trusses. Sow seed for a batch of plants for outdoors; Holmes' Supreme and Sunrise are both good. Larger-fruited varieties are not an advantage. The sowing of the seed is often deferred until too late, resulting in plants too small when put out, therefore late in giving a crop, which does not mature properly.

Asparagus.—Continue to introduce roots from an exhausted bed. If no frames or hotbeds are available, place the roots on a Peach-house border where a night temperature of 50° is kept up, and cover the roots with fine soil. Here the results will be quite satisfactory, no matter how far the site is from the glass. On the soil sow a pinch of seed of Early Breakfast Radish, which will come in useful.

Potatoes with haulm 6 inches high in pots will require added soil to aid in keeping the tops erect and to encourage surface roots. Water freely when growth is active.

The Hardy Fruit Garden.

Grafting Apple Trees.—No time should be lost in renovating the trees of inferior varieties by heading them down to a convenient base, according to the type of tree, and replacing useless sorts with those desirable. This is the quickest method of obtaining full crops of that old favourite Blenheim Orange. The grafts will have been selected at pruning-time, and laid in soil on a cool site to prevent any rise in the sap. Grafts 6 inches long, of the size of an ordinary lead pencil, are preferable to extra strong or weakly grown shoots. Two eyes beyond the top of the stock is ample where several limbs on one tree are to be operated upon, as overcrowding in the future must be avoided. Where only a single stem is to be grafted, three eyes can be retained. What is known as splice-grafting is the easier method and more certain of success. The point is to get a complete connection between the bark of one side of the graft and the scion. Secure the graft firmly in position with raffia, coating it well over with warm wax to exclude the air, which would absorb the moisture from both stock and graft. A mixture of clay and horse-manure answers very well if this is covered with moss and kept moist during dry weather.

Strawberry Beds requiring renovating by the filling of gaps with new plants, from pots if possible, should be done at once. Keep the ground free from weeds, as shortly the plants should be mulched if they show signs of exhaustion. A dressing of soot would assist growth and add colour to the leaves, which means larger fruits. Where new plantations are needed, nothing is better than using forced plants, gradually hardening them off before putting them out in well-prepared soil. From such plants a crop of fruits next year is assured.

Plants Under Glass.

Carnations.—Continue to pot off the newly rooted cuttings, giving them a position near the glass in a genial temperature. Pot on successional plants of the Perpetual-flowering section and ventilate freely those giving flowers, which in hospitals are much appreciated.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

The Severe Weather.—Unfortunately, more severe weather for the season of the year has to be recorded, April coming in with severe frost, the thermometer registering from 22° to 25° on the mornings of the first and second days in our district, followed by a heavy fall of snow on the third. This is naturally a hindrance both to the professional gardener and the allotment holder, and causes much worry to those who were energetic enough to have seeds and plants in. We can only hope that the damage will be less serious than one fears at this time.

Broad Beans.—Sow maincrop varieties in double lines 2½ feet apart. A row of Spinach may be sown in the space between, as it will be fit for use before the Beans grow too tall.

Celery.—This will now be ready for pricking out either into boxes or on to a slight hotbed with a layer of well-decayed manure immediately under the soil. Where large quantities are grown, the latter method is most favoured, as, when ready for planting out, the plants lift with splendid roots.

The Hardy Fruit Garden.

Protecting Fruit Trees.—A sharp look-out must now be kept on fruit trees and bushes in the garden to see that sparrows and finches are not at their work of destruction on the buds. Many protective remedies have been tried, with varying success. A mixture of powdered lime and soot dusted over the bushes when they are damp often proves effective. A useful preparation for this purpose is Bentley's Bud-Protecting Compound; it is inexpensive and easily applied with a syringe. It is best to apply the dressing just as the buds are swelling, and one dressing usually suffices.

Young Trees on Walls.—Newly planted trees of Plums, Apples and Pears should have any superfluous or badly placed shoots rubbed off. Encourage growth by watering during dry weather, as in many cases wall trees do not get their full share of the rain.

Plants Under Glass.

Bush Chrysanthemums should now be moved into 6-inch pots and be kept growing freely. Shade from strong sun for a few days after potting.

Begonias.—Tubers of these which were started in boxes some time ago may now be potted up, using judgment in the size of pot required, according to the size of the plant. A compost of two parts loam, one part of leaf-mould and sand suits them well.

Coleus.—Plants struck from cuttings ought to be potted on before they become potbound. Seedlings should be kept in small-sized pots to induce good colour in the leaves.

The Flower Garden.

Roses.—Tea and China Roses may now be pruned and the various borders lightly pointed over. If the borders have received no mulching during the winter, or if farmyard manure is difficult to obtain, a dusting of Thomson's Plant Food should be given.

Perennials.—Finish any planting in the hardy border that may have been kept back owing to bad weather. Plant Gladioli in clumps of twelve, using sandy soil when planting. Hollyhocks wintered in frames may also be transferred to their flowering quarters.

Grass Verges may be pared neatly with the edging iron, as this makes them much easier to be kept in good condition during the season; also clear off any sticks or stones from the lawns, and so be in readiness for the lawn-mower.

Hardy Annuals.—Sow Shirley Poppies, Mignonette, Candytuft, Limnanthes, &c., in well-prepared ground. If the natural soil is heavy and cold, a good plan is to cover the seeds with finely sifted old potting soil.

Ivy on Walls should now be trimmed in closely, as it will soon refurnish the wall with delicate green, giving a fresh, spring-like appearance free from the irregularity of the older growth.

James McGran.
(Gardener to Sir William H. Houldsworth, Bart.)
Coodham, Kilmarnock.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held at the Drill Hall, Buckingham Gate, S.W., on April 11, if less varied than usual, was not without interest. Darwin Tulips in bowls from Wisbech were superbly shown, and constituted a chief attraction; alpines and early hardy flowers were in great variety from many sources; while Narcissi, Carnations and Orchids each contributed their quota of beauty. Roses from Twyford were both beautiful and fragrant. No fruits or vegetables were on view, and only one novelty—an Orchid—received an award.

Narcissus and Tulip Committee.

Present: E. A. Bowles, Esq. (chairman), the Rev. G. H. Engleheart, and Messrs. G. W. Leak, Christopher Bourne, F. Herbert Chapman, W. B. Cranfield, Peter R. Barr and Charles H. Curtis.

An exhibit of Darwin and other Tulips from Messrs. R. H. Bath, Limited, Wisbech, and for which a gold medal was deservedly awarded, constituted a chief attraction of the show. Grown entirely in bowls of fibre and attaining to such a pitch of high excellence, the exhibit was also of educational value, demonstrating the possibilities of this phase of horticulture for those living in towns and suburban districts where proper soils are difficult to obtain. In all some ninety-six bowls were staged, and these averaging a dozen or fifteen giant flowers apiece, a magnificent display resulted. All appeared alike amenable to the treatment, the great goblet-like flowers, as large as the best soil-cultivated examples, reflecting the highest credit on the cultivator. Some of the more conspicuous included Suzon (pale flesh pink), the indispensable Clara Butt, Goliath (a giant in bronze), Isis (scarlet), Europe (intense scarlet with pure white base), White Queen (very good), Panorama (terra-cotta bronze, most beautiful and distinct), Faust (glossy dark maroon), Bleu Aimable (the best of the mauves), Yellow Perfection, and Wally Moes (pale violet, shaded lilac). Of Cottage sorts, Bouton d'Or, Inglescombe Yellow and Mrs. Moon, all yellow-flowered, were very fine, the colour quite welcome amid so much brilliance.

In the Narcissus section Messrs. Barr and Sons, Covent Garden, who alone contributed, staged an admirable collection, chiefly in the cut state, a few being also noted in pots. Such superb white trumpet sorts as Mrs. G. H. Barr and Loveliness were at their best, chaste, and full of grace and charm. Groups of each were most effective. A prominent novelty was Golden Arrow, a cyclamineus hybrid with an intense golden Queen of Spain effect. It was strikingly beautiful and distinct. Maximus (very rich), Firelight (with a very brilliant cup), Lord Roberts, Weardale Perfection, and Golden Chief (a magnificent yellow trumpet sort) were other good things. Volcano, a double incomparabilis with a centre of brilliant orange scarlet, was not the least conspicuous in a very telling lot. Many seedlings of merit as yet unnamed also contributed their quota of interest and beauty.

Floral Committee.

Present: H. B. May, Esq. (chairman), and Messrs. W. J. Bean, J. Hudson, J. Green, T. Stevenson, J. Heal, W. Howe, J. F. McLeod, W. J. Blakey, C. Dixon, Clarence Elliott, W. J. Bilney, H. Cowley, E. H. Jenkins, G. Paul and Charles E. Pearson.

The forced Roses from Mr. Elisha J. Hicks, Twyford, were singularly beautiful and refreshing, some, too, delightfully fragrant. Of this type were the new Hybrid Tea Mrs. Elisha J. Hicks, of delicate shell pink tone, and the golden apricot coloured Climbing Lady Hillingdon, which is also a novelty of high rank. Others in the group also renowned for fragrance and beauty were Princess Mary and Mrs. George Norwood. Snow Queen was in fine form, also Mme. Edouard Herriot. In addition, such species as Moyesii, with its variety Brilliant, which is exceptionally rich in colour, and the pale creamy yellow Hugonis were also noted, the whole making a delightful group. Ada Paullin, with long, elegantly formed rose and cream flowers, was represented by a big vase.

Alpine and early dwarf flowers from Messrs. Barr and Sons, Covent Garden, included a choice assortment of Saxifrages, as, *e.g.*, Haagii, Petraschii, Paulinæ, Faldonside and others, with Chionodoxas and Scillas.

Alpines in boxes and in considerable variety were well shown by Messrs. R. Tucker and Sons, Oxford, such choice Saxifrages as S. Grisebachii (very distinct form), S. Rocheliana lutea, S. Vandelii (white, one of the most difficult to grow), S. oppositifolia in variety, and S. Petraschii being noted. Primula Juliæ and Androsace (Douglasia) lævigata, full of rosy flowers, were also good.

Mr. Clarence Elliott, Stevenage, struck a novel course by showing the more miniature-growing alpines grouped in variety in shallow pans, styling them "Rock gardens for table." In this way such as Anemone vernalis, Iris reticulata, Androsace lævigata, Houstonia cærulea, Puschkinia libanotica, Saxifraga Paulinæ, S. Faldonside and S. oppositifolia, with others, were associated with, in not a few instances, pretty effect. As a novelty it attracted considerable attention. This exhibitor also contributed a grand panful of Saxifraga Grisebachii Wisley Variety, which is very distinct.

Mr. G. Reuthe, Keston, also showed alpines in considerable variety, the choicer ones including Puschkinia libanotica, Hepatica Double Blue, Saxifraga Irvingii, S. Petraschii (white), S. Burseriana minor, Anemone blanda rosea, Shortia galacifolia and S. g. rosea, together with Primulas and others. Rhododendron intricatum (violet) and R. strigillosum (brilliant crimson scarlet) were notable shrubs in the group.

Early hardy flowers were also shown by the Misses Hopkins Shepperton-on-Thames.

Messrs. Allwood Brothers, Hayward's Heath, contributed a nice lot of Carnations, Circe, Bishton Wonder, Salmon Enchantress, Nora West, Mary Allwood and Triumph being noted.

ORCHID COMMITTEE.

Present: Frederick J. Hanbury, Esq. (chairman), and Messrs. J. O'Brien, J. Wilson Potter, R. A. Rolfe, T. Armstrong, Walter Cobb and J. E. Shiel.

Messrs. Armstrong and Brown, Tunbridge Wells, sent a choice lot containing such excellent Odontoglossums as O. ardentillus, O. Fabia Orchidhurst Variety, O. Conqueror (clear white ground, freely blotched chocolate) and O. eximilius (of brownish crimson hue, finely bordered white). All are high-class varieties and big flowers with broad, overlapping petals.

In a group from Messrs. Sander and Sons, St. Albans, Brasso-Lælio-Cattleya Wotan var. Excelsior, with big rosy-coloured, gold-centred flowers, was the most conspicuous item. Others of note were Cattleya Snow Queen and C. Mary Sander, both chaste and beautiful.

Cattleya Lady Roweana, pure white sepals and lip, with yellow in the tube, from Mr. J. E. Shiel, The Dell Gardens, Englefield Green, was very fine.

A group from Messrs. Charlesworth and Co., Hayward's Heath, included Odontioda Brewii, O. Lambeauiana Ruby Gem, Cattleya Robert de Wavrin and Sophro-Lælio-Cattleya Meuse, a very distinct form with rosy red sepals and cream-coloured lip.

In that from Messrs. Stuart Low and Co., Jarvisbrook, Sussex, Lælio-Cattleya Calabria, with apricot-coloured sepals and rich orange lip, caught the eye at once. Cattleya Schröderæ Purity was also noted among others.

FIRST-CLASS CERTIFICATE.

Odontioda Coronation Orchidhurst Variety.—This remarkable hybrid, whose parentage is not recorded and which bore a much-forked raceme with forty-nine flowers, was by common consent regarded as one of the finest of its tribe yet seen. For sturdy vigour and freedom of flowering it ranks high with the best of its race, while in its rose and white effect it is quite unique. The sepals and petals have a white ground copiously and irregularly blotched rosy red, their white, rose-suffused tips lending additional charm to the whole. The small, pure white lip is blotched with crimson at the base; the crest is golden. One of the most sumptuous hybrids we have seen. From Messrs. Armstrong and Brown, Tunbridge Wells.

BOOKS

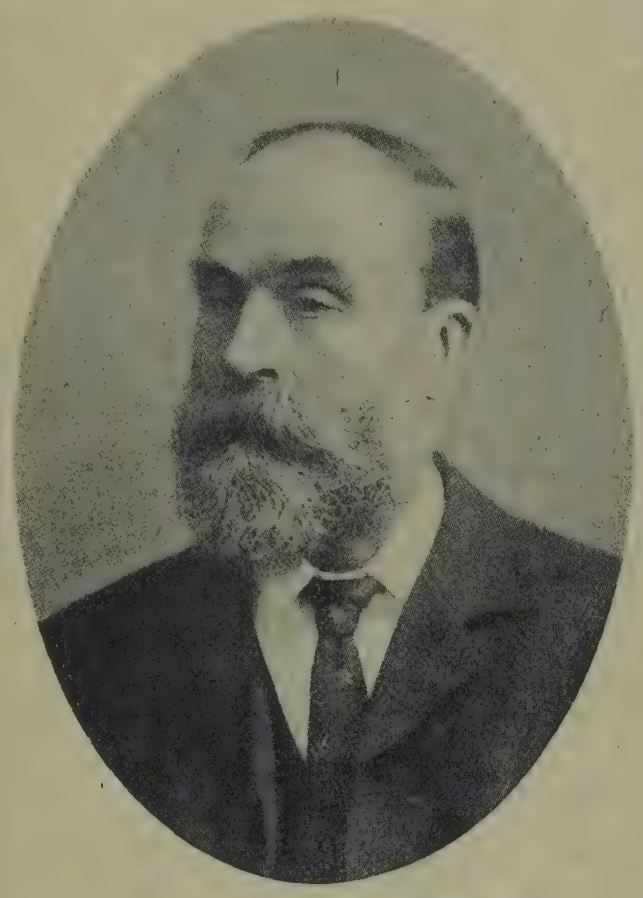
Paynter's System of Poultry-Rearing*.—This book deserves a place in every poultry-keeper's library. Mr. Paynter has devoted many years of his life to investigating the problem of how such a person as a partly disabled soldier, ex-service man, ex-civil servant, or intelligent person of either sex can best set to work to make his or her living, or addition to their living, out of the production of table poultry or eggs. As is well known, such people have frequently all the personal factors necessary for success, that is health, strength, energy, sufficient capital, and an earnest desire to make their living by such means; but what they lack is proper knowledge, that is, a clear comprehension of the financial possibility of their work and exact instructions as to how to set about attaining it. This book has been written in order to act as a sort of guide or finger-post to such people, first by indicating to them the financial possibility, and secondly by giving them clear and definite instructions as to how best to set about attaining this possibility. All the four branches of utility poultry-keeping have been so treated, namely: Egg Production; Table Poultry Production; Fatting, that is, Cramming the Cockerels; and Stock Birds for Producing the Necessary Eggs. The author has worked out a one-man unit for each branch, showing how many birds and how much capital one man can comfortably handle himself, and what the financial possibility of such an undertaking to such a person ought to be. The book is illustrated with numerous photographs of a very practical nature, and is a worthy addition to the Increased Productivity Series of the *Country Life* Library.

* "Paynter's System of Poultry-Rearing, or £500 a Year from Hens"; price 3s. 6d. net.

OBITUARY

JAMES STREDWICK.

For rather more than five and twenty years the name of James Stredwick has been indissolubly associated with progress among Dahlias, and there seemed to be no good reason why the association should not be maintained for many years to come; therefore the news that Death had withdrawn this genius from the ranks of floriculturists has come with a great shock and suddenness. Probably Mr. James Stredwick secured more awards for new Dahlias than any other raiser, and it is certain that the varied forms and colour shades he gave to Cactus Dahlias have been the means of adding very greatly to the popularity of this autumn flower, both in our own kingdom and in the Colonies and the United States. Mr. James Stredwick took up Chrysanthemum culture as a hobby and a relaxation from the building business; as an amateur grower he was very successful, as his record of



THE LATE JAMES STREDWICK.

prizes won in London and the Southern Counties would show. He presently "took up" Dahlias, and soon developed a genius for raising distinct and beautiful varieties, chiefly in the Cactus section. The hobby developed into a business at St. Leonards-on-Sea, and for many years past there has been an annual output of new varieties. Mr. Stredwick was equally successful as an exhibitor, and he never tired of advocating the merits of Dahlias as exhibition and garden flowers.

The loss is a great one, and the sympathy of all flower-lovers and all who are interested in the production of new flowers and the evolution of a particular kind of flower will be extended to the members of Mr. Stredwick's family. From a somewhat selfish and purely floricultural point of view, the loss is softened by the knowledge that Mr. Harry Stredwick has long been his father's right-hand man, and is thus specially fitted to add further laurels to the family name. Mr. James Stredwick will be greatly missed at St. Leonards, where he took an active part in the work of the Borough Council as an Alderman.

THE REV. W. T. HUTCHINS.

THE *Florists' Exchange*, New York, announces the death of the Rev. W. T. Hutchins, who was one of the pioneers of the Sweet Pea in America. It was in 1900, at the Bicentenary Celebration of the introduction of the Sweet Pea, that he opened his paper with the celebrated simile of the Sweet Pea that has since gone all over the world, and is known by heart by all Sweet Pea growers: "The Sweet Pea has a keel that was meant to seek all shores; it has wings that were meant to fly across all Continents; it has a standard which is friendly to all Nations; and it has a fragrance like the Universal Gospel; yea, a sweet prophecy of welcome everywhere that has been abundantly fulfilled."

EDITORIAL NOTICES

Every department of horticulture is represented in THE GARDEN, *and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.*

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, Tavistock Street, Covent Garden, W.C.

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

DICTAMNUS FRAXINELLA (*Mauve Poppy*).—This is not at all likely to ignite spontaneously. It is easy to set fire to a good clump when in flower or fruit on a still, warm evening. The secret of success is to hold a lighted match close to the main stem just below the lowest leaf, and raise it from leaf to leaf until it meets with the volatile gas and a flame runs up the plant. A delightful scent, rather like that of Lemons, is given off as the gas burns, and the plant is not injured at all.

PÆONY-FLOWERED DAHLIAS (*R. H. Blair*).—The following are among the best and most distinct of these plants to-day: Aphrodite (pure white), Attraction (yellow), Blushing Bride, Distinction (yellow and red), Duchess of Brunswick (salmon red, edged apricot), Duke Henry (purple crimson), Queen Wilhelmina (pure white, most elegant form), Geisha (orange red), John Green (yellow and scarlet), Lilac Queen, Sunset (bright orange scarlet), Glory of Baarn (soft pink), Germania (glowing crimson), Golden Eagle, and Princess Juliana (large double white). You could obtain those named from Messrs. R. H. Bath, Limited, The Floral Farms, Wisbech, and it would be advisable to write them early stating the time you expect to sail, in order that the plants may be specially prepared for the journey. In certain instances "pot roots" of the preceding year are available, and, if you were making the journey to Australia soon, these—assuming they are procurable—would stand the journey better than the young green, freshly propagated plants of the moment. Pot roots, indeed, when dormant, may be sent almost any distance with impunity.

ROSE GARDEN.

PLANTING DISTANCES FOR VARIOUS ROSES (*D. R.*).—If you have plenty of space, we should advise planting the Roses you name about 30 inches apart each way, excepting those we shall name. Zenobia is a strong grower and would need about 3 feet each way. Mme. Plantier can be made to grow into quite a big bush 4 feet to 5 feet through; so also can Fellenberg. Varieties like Florence H. Veitch and Grüss an Teplitz are best treated as pillars about 4 feet apart. Bourbons, such as Mrs. Paul and Zephyrine Drouhin, should be given at least 4 feet. Bourbon Roses planted to form a hedge should be about 2 feet apart, the idea being to force them to grow tall rather than bushy. China Roses, such as Laurette Messimy, Queen Mab and Comtesse du Cayla, may be 3 feet to 4 feet apart, as by moderate pruning they quickly develop into large bushes.

PRUNING ROSES (*B. Y.*).—We would advise you to procure the "Handbook on Pruning Roses," published by the National Rose Society, 25, Victoria Street, Westminster. The diagrams are very helpful. As a rule, the free-flowering Teas and Hybrid Teas, such as sorts you name, should have the wood made last season cut back to 3 inches to 4 inches, or even a little more severely. You then encourage basal growths, which give the best blooms and which yield such fine Roses later in the year. If your plants are some years old, it is advisable to cut out some of the oldest wood quite down to the ground. This ensures keeping the plants in a youthful condition.

TREES AND SHRUBS.

CONES ON AN ARAUCARIA (*Lady Pearce*).—The brown, ball-shaped bodies on the Araucaria are cones. They need not be removed, for when they are quite ripe they will fall asunder naturally. They will doubtless contain numerous bright brown seeds, which can be sown if more plants are required, or they may be eaten if desired. The seeds, however, have a turpentiny flavour, and few people in this country care for them, although they are a regular article of food in Chile. The whole cones are very curious and interesting. If cut before they are quite ripe, they may be kept unbroken for many years.

KITCHEN GARDEN.

PEAT MOSS AND SAND FROM A POULTRY-HOUSE (*E. F.*).—The manure should be applied when digging is in progress, but may be lightly forked in between the rows of plants. It will prove particularly valuable for all kinds of Brassicas, but may be used with advantage to Peas, Beans, Onions and Potatoes as well. In any case, a good barrowful to each four square rods of soil will be an ample dressing.

POTATOES AND TOMATOES IN A GREENHOUSE (*H. N. T.*).—The Potatoes should be lifted late in May. Plant the Tomatoes immediately afterwards. Sow seeds now and grow plants in 4-inch pots to be fit for planting when wanted. Add some turfy loam and a sprinkling of lime and bone-meal to the soil, and the same soil will grow a good crop of Tomatoes. Plant in rows 15 inches apart and allow 12 inches between the plants in the row. Grow on the single-stem system.

VEGETABLES BELOW AN EAST WALL (*Alford*).—You say the soil is good but heavy. This seems to suggest an excellent position for autumn, winter and spring vegetables in the shape of Cauliflower, Broccoli, Brussels Sprouts, Sprouting Broccoli; Scotch, Asparagus and Cottager's Kale; and Savoys, both Drumhead and small. Seeds of these should be sown now, and the plants be put out about the middle of June. Or, if preferred, salads could be grown in the way of succession, Lettuce (both Cos and Cabbage), Beetroot (both Turnip-rooted and long-rooted), also Celeriac (Turnip-rooted Celery, but is grown on the surface of the soil like Turnips). Sow the seeds now in small pots in a cool greenhouse and treat like young Celery plants. Plant out as above as soon as ready. Corn Salad and Radishes, of course, could also be grown.

HOTBED COOLING DOWN QUICKLY (*H. M. H.*).—The cause, we think, of the temperature of your hotbed falling too quickly was its rapid heating and quick decay, in consequence of being so wet to start with. The best way of reheating the bed will be to turn it over again, taking out the most decayed part and adding a cartload of fresh stable litter in a comparatively dry condition, with the addition of half a load of leaves of last autumn's gathering. This would give a steady heat and retain the same for a long time. The old material.—Give the border in question a dressing of this 6 inches deep, and dig the border at least 12 inches deep, mixing the manure well with the soil as digging proceeds, adding a liberal scattering of lime at the same time. The plants you mention would succeed well in this. The rest of the old hotbed could be used to advantage on other borders for any vegatables, as it is excellent manure, especially when lime is added to it. A dressing 3 inches deep would be ample for most crops. It would be excellent to lay down in the drills to receive the Potato sets. Tomatoes in cold greenhouse.—The weather is wintry at present, but should break soon. The Tomatoes will be all right. Keep the house warm by giving little or no air and by covering the glass on cold nights with mats, old sacking or anything else available.

THE SIZE OF A KITCHEN GARDEN (*A. B. C.*).—It would require rather more than a quarter of an acre to comfortably supply a household of four all the year round—later Potatoes and Carrots not included—if the soil is good and made the most of. It should be large enough also to accommodate such fruit as you require, provided the garden is walled round for the accommodation of choice Pears, Plums and Cherries. Bush trees would succeed by the sides of the walks, and, if necessary, espalier Pear and Apple trees could be made use of for dividing the quarters of the kitchen garden. Well-trained gardeners are courteous and kindly disposed, and will not leave a stone unturned to try to please their employers in all matters relating to the garden, so long as they feel they have their confidence and respect. By all means give the gardener clearly to understand your wishes in respect to the condition of maturity the vegetables are in when gathered. But do not worry him by ignoring him and gathering them yourself. There should be a day book in every garden for noting down every article supplied to the house (or to the owner's friends) every day in the year, with a price attached. The result of the gardener's labour when measured in the light of pounds, shillings and pence during the year would surprise many employers. No other book is needed.

SULPHATE OF COPPER SPRAY FOR POTATOES (*R. H. S.*).—Two washes containing copper sulphate are in use, viz., Bordeaux mixture and Burgundy mixture. The latter is usually more easily made. Bordeaux mixture is made by dissolving 6lb. copper sulphate in 20 gallons of water in a *wooden* vessel. This is best accomplished by placing it in a loosely woven canvas bag and suspending it in water overnight. Slake 4lb. quicklime in another vessel, adding water gradually at first until the lime is crumbled to powder, then in greater quantity so as to form a milk, about 20 gallons in all. When cold—and not before—strain this through a piece of coarse cloth, add the copper sulphate and mix thoroughly. If the mixture is properly made, a drop of the clear liquid left, when the precipitate formed begins to settle, will give no red coloration when added to a drop of a solution of potassium ferrocyanide. If it does, add more lime until no red coloration is produced. Make up to 40 gallons with water; soft water is best. The mixture will not keep. Burgundy mixture is made by dissolving 13oz. copper sulphate in 4 gallons of water as above, and 15oz. washing soda in another 4 gallons. Mix the cold solution in a third vessel and add 8oz. soap powder (or soft soap). This mixture will not keep, but the two solutions may be kept separately if covered and mixed when wanted.

FRUIT GARDEN.

PLUM TREE EXUDING GUM (*R. E. G.*).—This complaint is generally due to over-luxuriant growth in the early stages of the tree's career, and is usually the precursor of canker, a still more serious disease. Your local gardener is quite right; root-pruning is the only remedy. It is rather late, but we should risk it, as the tree is of no use to you as it is.

PEACH TREES UNDER GLASS IN BLOOM (*Gardenia*).—Keep the trees well supplied with water at the roots (or the buds or young fruit may drop) all the season through. Do not ventilate too freely, but give sufficient air to create a free circulation. While the weather is so cold you should have a little heat in the pipes, especially at night; this greatly helps the free circulation of air. At midday on fine days go over the trees and gently tap them with the closed hand; this will help to distribute the pollen and make the impregnation of the fruit more secure. As soon as the fruit is set, water the trees again and ventilate rather more sparingly so as to keep the air slightly warmer.

SILVER-LEAF ON PEACH TREE (*A. H. R.*).—No cure is known for silver-leaf, which, at least in some cases, follows the attack of the fungus Stereum purpureum upon the tree. When a tree is badly attacked it is best to uproot it and destroy it entirely, as on the dead wood the fruits of the fungus are produced, and the spores from these are likely to gain entrance to other trees through wounds. There is no good evidence to show that the soil in which the diseased trees were growing is infective, and we know of instances where badly diseased trees have been replaced by others without any soil treatment, and the new trees have remained quite healthy. The wounds made in pruning should always be painted over with painter's knotting or styptic, or some similar protective covering.

HOW TO GROW VINES WITHOUT FIRE-HEAT (*W. G. B.*).—The secret of growing Grapes successfully without the aid of fire-heat lies in making the best use of sun-heat during the summer. This is done by closing up the vinery after syringing the Vines, floor and walls (at this time of the year at 3 p.m.) and not opening the lights again until half-past seven the following morning, that is to say, if the morning is bright and warm. Only a little air must be given at this time, and then by opening the top ventilator (not the front), syringing the Vines and vinery as above before giving air. Increase the amount of air given through the top ventilator only as the sun gains power, in order to keep the temperature moderately down. Do not over-ventilate to depress the temperature too much at any time. Close the vinery with sun-heat at 3.30 p.m. In sunless weather the warmth of the vinery must be kept up as best you can by giving but little air. The great thing is to take advantage of warm, sunny days to stimulate growth.

GROWING PEACHES UNDER DIFFICULTIES (*E. E., Essex*).—We must say, in the first place, that if best quality Peaches are to be grown, the growth of the trees must not be handicapped by adverse conditions, such as blocking up the drains by the roots of outside trees, or by the roots of other trees finding their way into the soil of the border, impoverishing the same and making it ineffective for the growth of good fruit. Drainage.—We do not think it matters much how the drains are arranged, provided there is a sufficient fall to the outlet drain and the waste water is carried easily away. Concrete walls.—Your border should be protected on the one side from the roots of trees entering the soil, and from sour water draining into it from the front border, and also from the cold clay underneath. The only way of doing this is to concrete all round and underneath. Take up the trees in autumn and replant in best new Peach tree soil; new life will thus be infused into them, and you should have no further trouble. No doubt the shoots sent are suffering from a virulent attack of a fungoid enemy. The trees are now starting into growth, and it would not be safe to apply a fungicide in strong solution. The best thing you can do to destroy the fungus is to paint the parts over with sulphur and soft soap made into the consistency of thick paint.

Land Settlement of Ex-Service Men: Acquisition of an Estate in Yorkshire.—The Board of Agriculture and Fisheries have acquired for the purpose of a land settlement colony of ex-Service men an estate of 2,363 acres near Patrington in the East Riding of Yorkshire, about fifteen miles distant from Hull. The soil is a rich alluvium capable of producing very heavy crops. This colony, when fully developed, will consist of a central farm of about 200 acres and sixty small holdings of "mixed farming" type averaging about 35 acres in extent. The equipment of each of the latter will include a comfortable cottage and the necessary farm buildings for carrying on the holding. Co-operative methods will be adopted for the purchase of requirements and the consignment and disposal of produce. It must be clearly understood that the Government do not propose to make direct advances of capital to ex-Service men desirous of taking up holdings, but it is hoped that industrious men, even if possessed of but little capital of their own, by starting as workers on the Central Farm and at the same time cultivating a small plot on their own account, may gradually be able to increase the area under their own control until they are able to support themselves entirely from this source. Endeavours will be made to establish a system of co-operative credit to assist men of this class. It is hoped to provide, by means of voluntary donations, a club-room and other social amenities. In the selection of settlers preference will be given as between men of equal merit and qualifications to those whose wives or sisters or daughters have, as the result of their employment on the land either before or during the war, acquired proficiency in milking or other farming operations. Those desirous of becoming applicants for holdings on this colony should send in their applications without delay to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, S.W., from whom forms for this purpose can be obtained. Letters or postcards asking that forms may be sent need not be stamped.

GARDENING APPOINTMENT

WE learn that Mr. Robert Stuart, until a short time ago gardener at Thirlstane Castle, Berwickshire, with Viscount Maitland, has been appointed gardener at Drumlanrig Castle, Dumfriesshire. Mr. David Inglis, who has been gardener at Drumlanrig for a considerable number of years, is retiring on May 28. Mr. Stuart is at present in the employ of the Parks Department of the City of Glasgow.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

LABOUR-SAVING DEVICES

A READER of my poultry notes asks if I will from time to time recommend labour-saving devices, since, as she puts it, "they will be appreciated by one and all just now." Labour-saving methods may be grouped into two categories—good and bad. Those in the latter class are adopted by the lazy poultry-keepers and cannot be recommended by me. The poultry-keeper when taking "short cuts" towards his objective should make sure that the results are not jeopardised for methods that save time, labour and trouble, but do not yield the best returns, are useless to the progressive producer.

Cleaning Out Interiors. If all internal fittings of houses are made movable, much labour will be saved at cleaning-out time. Again, if the droppings-board is covered with a strip of linoleum, the droppings can the easier be brushed into a bucket. One can, for instance, sprinkle the linoleum with soft sifted earth to facilitate cleaning, and in each house can be placed a small bucket of earth, a triangle-shaped scraper and a small brush. I am always in favour of doing everything possible from outside the house, knowing that the continual entering of the structure tends to upset the birds unless they are docile and know their owner well. Now it is quite a simple plan to arrange a hinged flap in the back or side of the house directly level with the drop-board, and to draw the latter (or the linoleum) through the aperture at cleaning-time. Such an arrangement saves a lot of labour, and the drop-board should slide along grooves for the purpose.

Drinking Fountains.—Where the drinking fountains are so arranged that they can be filled and cleaned without entering the house, much labour and time will be saved. The idea I have in mind can best be carried into practice with self-filling fountains that have a cup at the base. These are commonly used by poultry-keepers and are of the usual self-supply kind. The vessels are turned on their sides when being filled, and when placed upright sufficient water leaves the "body" to fill the drinking cup at the base. As the birds drink the water out of the cup, more leaves the body of the fountain to take its place. The cup is therefore always full. In the side of the house a small aperture must be cut, through which the cup of the drinking vessel can be placed. The fountain is stood on a wooden bracket that is fixed to the side of the poultry-house. Inside the house a similar bracket is arranged to act as a step-board, on to which the birds can fly when desiring to drink out of the cup which has been passed through the aperture. Apart from the labour saved, this idea enables the poultry-keeper to fix his vessels well clear of the ground so that litter cannot be scratched into the drinking water.

Reversible Sections.—What may be termed a "reversible section" has many advantages by way of labour-saving. I will presume that hanging on the side of the poultry-house (inside) are three small receptacles holding grit, shell and charcoal, respectively. In the usual way the owner must enter the house each time the receptacles need attention. My plan is to cut a small section out of the side of the poultry-house and to place this door arrangement on "pivots" at the top and bottom, *i.e.*, in the centre. The receptacles are arranged on the inside of the small reversible door, and all the poultry-keeper has to do when the vessels need attention is to swing the door *inside out* on its pivots. The owner can fill the receptacles from outside the house and turn the door back so that the hoppers are inside the building. Two screwed buttons must be fixed on the outside of the house to prevent the reversible section from turning of its own accord or through the action of the inmates. This idea can be carried out in other directions if desired.

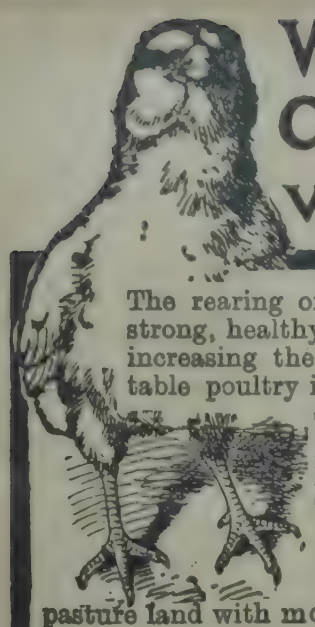
Wide Alleys and Doors.—Where wide alleys to runs and wide doors to houses are adopted, much labour and time will be saved. Readers who intend erecting houses and wire-netting runs should allow for wide dividing alleys so that a horse and cart can pass up and down. If a load of straw or litter or food has to be "tipped" at the bottom of the farm because the alleys will not take a horse and cart, there is all the trouble and labour of transferring the material by hand-barrow. With narrow doors, too, one is working at a great disadvantage. I prefer doors to poultry-houses that are wide enough to admit a wheel-barrow. The latter can then be pushed right into the house and either "tipped" or filled on the spot. It is so much waste of time and labour to leave the barrow outside the laying structure and to pay a hundred and one visits to and fro using small buckets. It is false economy to have, as so many do, narrow doors to either houses or runs. The door of the structure should be so placed that the owner has not to enter the wire-netting run to get to it. The door should face the alley-way or walk.

Communication Gates. Poultry-keepers, who adopt the system of small houses and wire runs, whether for breeding or laying stock, invariably err in the planning of the gates to the runs. It is too often considered that one door only is necessary to each run; but where many wire-netting enclosures are adjacent, the value of communication gates cannot be over-estimated. There should be a gate leading from one enclosure to another to enable the owner to walk from top to bottom of the farm without coming into the alley on leaving one run and prior to entering the next.

In the photograph reproduced above, Mrs. Colbeck of Boyle Hall, West Ardsley, near Wakefield, is seen feeding one of her favourite pens of Light Sussex.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*



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AND POULTRY

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Serves a double purpose. While it kills all garden pests and diseases affecting plant life, it also promotes to a wonderful extent the growth of the plants washed.

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½ pint 1/-; pint 1/6; quart 2/6; ½ gallon 4/-; gallon 7/6; 3 gallon drum 18/-; 5 gallon drum 27/6

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WEED KILLERS

WRITE FOR FULL PARTICULARS.

"ABOL" SPECIALITIES ARE SOLD BY ALL NURSERYMEN, SEEDSMEN, ETC.

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GOLD MEDAL BY ANGLO-AMERICAN EXHIBITION; COMMENDED BY ROYAL HORTICULTURAL SOCIETY.

DISSOLVES QUICKLY IN COLD WATER.

Sizes—No. X—Sufficient to make 12½ gallons, **1/4** Tin
No. 1— ,, ,, 25 ,, **2/3** ,,
No. 2— ,, ,, 50 ,, **4/2** ,,
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No. 3, Carriage Paid. Tins free.

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Make Sure of Good Supplies of the National Colours,

RED, WHITE & BLUE.

Events will probably happen quickly now.
Remember previous Victories, and the great demand for Emblems. **The Sweet Pea** is the **most useful of all Flowers** for this purpose.
SPECIAL OFFER.—100 Best in **the 3 colours, 3/6.**

PLANT IN THE OPEN NOW.

SEND FOR OUR NEW LIST OF
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The following are a few selections:—	doz.	100
Pink—Hercules	8d	4/6
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Salmon—Earl Spencer	9d	5/-
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Orange—Robert Sydenham	10d	5/6
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Purple—Royal Purple	1/-	7/-
Maroon—King Manoel	8d	4/6
Mauve—Bertrand Deal Impd.	8d	4/6
Blue (Light)—Wedgwood	7d	4/-
Blue (Dark)—Lord Nelson Spencer	8d	4/6
Lavender—Lavender Geo. Herbert	8d	4/6
Carmine—John Ingman	6d	3/6
Picotee Edged—Evelyn Hemus	6d	3/6
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Cerise (Deep)—Edith Taylor	8d	4/6
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White—King White	9d	5/-
MIXTURES.		
Spencers—Waved	6d	3/6
Large Flowering	4d	2/4
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Not less than 50 at the 100 rate.

"Collections" 6 plants **each** 12 varieties, **our selection, 3/3**; 12 ditto, **5/9**; 25 ditto, **10/6.**

Important.—We cannot too strongly emphasize the fact that these plants are **Autumn and Winter Sown** and **Cold Grown.** There is a **vast difference** between such plants and those raised in the **Spring** in **heat.**

CYCLAMEN. "LOW's GIANT STRAIN."
In 72's White, **4/-** doz. Mixed, **3/6** doz.
Transplanted. ,, **2/6** ,, ,, **2/-** ,,

SCHIZANTHUS "EXCELSIOR STRAIN."
In 72's, 3/- doz.

Primulas Malacoides alba, ex boxes, scarce, **3/-** doz.
Heliotrope, "Lord Roberts," ex boxes .. **2/-** doz.
Lobelia, "Mrs. Clibran," ex boxes, fine .. **9d** doz.
Marguerites, "Mrs. Sanders," ex boxes .. **2/-** doz.

TOMATOES.

Varieties.	Seed.	Seedlings (ready for transplanting).	Transplntd. (ready for potting).
Ailsa Craig, Comet, Fillbasket, Supreme, Kondine, Sunrise	**6d** & **1/-** pkts.	25, **1/-** 50, **1/6** 100, **2/9**	12, **1/6** 50, **4/6** 100, **7/6**
Balch's Gem, Beatall	**1/-**	25, **1/6**	12, **2/-**
Bide's Recruit	pkts.	50, **2/6**	50, **6/-**
Bucks' Tresco	only.	100, **4/6**	100, **10/6**

COLLECTIONS.—That you may **TEST** which suits you BEST. 3 plants each, 4 varieties, **our selection, 1/9**; 6 ditto, **3/3**; 12 ditto, **5/6**; 25 ditto, **10/-**

TOMATO "BUCKS' TRESCO."

This variety **when properly grown** is without doubt the most prolific Tomato in existence. It simply needs generous treatment. **Cultural hints with all purchases, if requested.**

Read the following **unsolicited** testimonial from a gentleman when writing "for more" this season: **"Result from 30 lb. to 40 lb per plant; the trusses bore from 45 to 54 tomatoes."**—The Gardener, Barlboro' House, near Chesterfield.

We have a record of a single truss weighing over 12 lbs. Plants transplanted, ex boxes, ready for potting. **2/6** doz.; 50, **7/6**; **14/-** 100. **Delivery April.** Plants ex pots, ready for fruiting quarters, **5/-** doz.; **35/-** 100. **Delivery May.**

TOMATOES FOR THE OPEN.

Book your orders for plants now **for delivery** after **May 15th. Prices and Varieties** are as listed above for **Transplanted,** these are **ex boxes,** but **ex pots** are **4/-** doz., **27/6** 100, for all varieties.

We strongly recommend a variety named **"Holmes Open Air"** (not mentioned above), a heavy cropper Prices ex boxes **2/3** doz.; **7/-** 50; **12/6** 100. Ex pots. **4/-** doz.; **27/6** 100.

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Transplanted plants ready for **Immediate delivery:**

	Doz.	100
Brusse's Sprouts	4d	2/4
Cauliflowers	8d	4/-
Celery, red or white	6d	3/6
Leeks	3d	1/10
Lettuces, Cabbage or Cos	4d	2/4
Onions, Ailsa Craig (Special)	4d	2/4

Sage strong 1-year plants, **3d** each; **2/6** per doz.

FUTURE DELIVERY.

Book your orders now for plants of the following Vegetables for planting in the open. **Delivery May 15th and onwards.**

	Doz	100
Borecole or Kale, 3 varieties	2d	1/3
Broccoli (Winter Cauliflower), 5 varieties	3d	1/ 0
Broccoli, Sprouting White or Purple	2d	1/3
Brussels Sprouts (2 varieties)	3d	1/ 0
Cabbage (3 varieties)	2d	1/3
Cabbage, Red Pickling	3d	1/10
Cauliflower (2 varieties)	3d	1/ 0
Celery, red or white	4d	2/4
Leeks (2 varieties)	2d	1/3
Lettuce, Cabbage or Cos	2d	1/3
Onion (4 varieties)	3d	1/ 0
Savoys (1 variety)	2d	1/3

Terms—C.W.O. Please remit extra for postage or rail.

The Mail Nurserymen

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All Post Free or Carriage Paid Passenger Train.

Strong Plants from Open Field.

Rhubarb, best red, three-year-old roots, 6 for 1/-. Seakale, large roots, 6, 1/3. Sage, Thyme, Mint, 12, 1/-. Parsley, best curled, 20, 1/-. Asparagus, Kelway's Giant, strong three-year-old roots, 6/- 100.

Magnificent Hardy Perennials, Rockery and Spring Flowering Plants, will flower this year; several acres; very cheap; all 1/- doz.

Achillea, double white. Agrostemma, crimson. Alyssum, gold dust. Alpine Pinks. Antirrhinums. Aquilegias. Arabis, double white. Aubrietia, purple. Arabis, variegated. Canterbury Bells, separate colours. Snow in Summer. Chrysanthemum, maximum. Rock Rose. Cornflowers, blue. Cowslips, red. Commelina, blue. Crucianella, pink. Daisy, Monstrosa, large double pink or white. Dianthus, all colours, separate. Doronicum, early yellow. Forget-me-nots, best dwarf blue. Foxgloves, best mixed. French Marguerites, all colours. Gladiolus, very scarce, finest early and late varieties. Geum, scarlet. Hollyhocks. Iceland Poppies. Lily of the Valley. Linum, blue flax. Lupins, assorted. Lychnis, scarlet or pink. Lythrum, rosea. Mimulus, scarlet. Montbretia, clumps. Oriental Poppies. Pansies, best large flowering. Pink, double white or mixed. Polemonium, blue. Polyanthus, best border and gold laced. Pyrethrum, roseum. Ribbon Grass, variegated. Sweet Rocket. Saponaria, pink. Saxifragas, choice assorted. Sedums, various. Sidalcea, pink. Silene Shafta, pink. Stachys, lanata. Sweet Williams, new scarlet, pink, crimson, and Diadem. Tunica Saxifraga, Valerian, crimson or white. Many others.

The following, 6 for 1/-:—Auriculas. Aquilegias, long spurred, new colours, golden-yellow and Clematis flowered. Canterbury Bells, new pink beauty. Gaillardias. Campanulas. Coreopsis. Gypsophila paniculata. Statice Sea Lavender. Alpine Pinks. Many others.

The following, 15 for 1/-:—Canterbury Bells, mixed. Sweet Williams, mixed. Dianthus, mixed. Daisies, red and white. Forget-me-nots, etc.

Geum Mrs. Bradshaw, two-year-old, 3, 1/-.

Splendid Strong Plants from Cold House and Frames.—Calceolaria Tigrina (herbaceous), grand varieties, 4, 10d Dahlia Tubers, good varieties, 6, 1/-. Primula obconica, new rose shades, 4, 10d. Primula japonica, queen of hardy Primulas, 4, 10d. Lovely varieties of Hardy Primulas to flower in succession from now to end of summer, 4, 10d. List free.

Strong Tomato Plants, Carter's Sunrise and Sutton's Perfection, 6, 10d. Sweet Pea Plants, 30, 10d. Pea Plant (eating), best Marrowfat varieties, 30, 1/-. Broad Bean Plants, 30, 1/-. Vegetable Marrow Plants, 6, 1/-. Garlic sets, rooted, 12, 10d. Cucumber Plants, Bedfordshire prize, 6, 1/- Scarlet Runner Bean Plants, 30, 1/-. French Dwarf Bean Plants, 30, 1/-. Golden Butter Bean Plants, 30, 1/-.

Strong Vegetable Plants ready in a few weeks for a whole year's supply.—Early, Mid and Late Broccoli. Cauliflower. Celery. Cabbage. Savoys. Brussels Sprouts, curled. Asparagus, and Cottager's Kale. Lettuce. Beetroot. Sprouting Broccoli. Spinach. Leeks. Onions. Chicory. 1/6 100; 4/- 300.

Strong Seedlings now ready for pricking out.—Celery. Early Cauliflowers. Summer Cabbage. Brussels Sprouts. Savoys. Beetroot. Cos and Cabbage Lettuce. 10d. 100; 2/- 300.

Strong Greenhouse Plants and Choice Hardy Perennials, Rockery, Vegetable Plants, etc. Catalogue free. Everything post free.

MRS. PYM, F.R.H.S.,

10, Vine House, WOODSTONE, PETERBOROUGH.

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FOR FLOWER & KITCHEN GARDEN
OF FINEST SELECTED STRAINS & TESTED GROWTH

Awarded for Vegetables:

Royal Horticultural Society's Gold Medal.
Two R.H.S. SILVER-GILT KNIGHTIAN MEDALS.
3 GOLD MEDALS National Vegetable Society.

BARR'S SEED GUIDE contains a Select List of the Best Seeds for the Vegetable Garden, and the most beautiful Annuals and Perennials for the Flower Garden and Greenhouse, with many fine novelties of sterling merit.

Sent free on application.

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SEED POTATOES.

New Success, Yielder, Queen Alexandra, Hebrons, Sharpe's Express, Myatts, Eclipse, Llewellyns, May Queen, Queen Mary, Duke of York, Arran Chief, Puritan, Great Scot, Ninetyfold, Midlothian King Edwards, Factor, Evergood, Royal Kidney, Northern Star, British Queen, Up-to-date, Table Talk, Dalhousie, Cornwallis, Triumph, Dalmeny Hero, Pioneer, Northern Star, Iron Duke, Scottish Farmer, Mighty Atom, 56lbs. 14/-; 28lbs. 7/-; 14lbs. 3/6; 7lbs. 1/9. Potato Manure, 10/- cwt.; 6/- 56lbs.; 3/6 28lbs.; 2/- 14lbs.; 1/3 7lbs. Free on rail. Bags free.

Delivery guaranteed or replaced.

When ordering, please state Seed Potatoes are intended to be used for Seed Purposes only.

Collection of Peas, Beans, and small seeds (22 packets) 2/6 carriage paid. 14 packets Flower Seeds, my selection, 1/-, post free. Cash with order. Send for full Catalogue. Seed Potatoes, Peas, Beans and Vegetable Seeds

HORACE TAYLOR, CHATTERIS, CAMBRIDGESHIRE.

THE GARDEN.

No. 2371.—Vol. LXXXI. April 28, 1917.

NOTES OF THE WEEK

MANY tons of Potatoes have been planted within the last few days. On light and well-drained soils planting should proceed with all possible speed, but in the case of heavy land, especially where it is newly broken, every care should be taken that the soil is reduced to a well-pulverised condition before planting. The ground is still very cold and it is worse than useless to attempt planting on soil that is cold and pasty. It is far better to plant in May with the soil in good tilth than to plant now if the ground is not in fit condition. Tilth should be the watchword for the Potato-grower, and it should be remembered that well-sprouted tubers will produce a crop a good fortnight in advance of those planted at the same time if not sprouted.

Turnips.—Further sowings of early Turnips may be made, as there is always the chance of the first crop being blighted by late frost. Purple-top Milan is a good early sort, but we prefer White Gem. This is an oblong-shaped type of excellent quality, and comes quickly to usable size. Turnips require a rich soil which will promote a quick growth. A poor soil only produces roots that are stringy and bitter in taste. Thin out early and keep stirring the soil frequently.

Gooseberry Mildew Formula. It may not be out of place to again give Dr. Horne's formula for Burgundy mixture, which has proved useful at Wisley in combating the American Gooseberry mildew. The formula is 9½oz. of copper sulphate (98 per cent.), 11oz. of washing soda, 6oz. of soap powder, and 6 gallons of water. The copper sulphate is dissolved in 3 gallons of water, the washing soda in another 3 gallons, and the two cold solutions mixed. Six ounces of soap powder is then added and thoroughly stirred in. The mixture must be freshly prepared just before use. The best time to spray is about the second or third week in May, repeating the operation if the mildew appears. The first spraying kept the berries clean at Wisley, but the young growth subsequently became affected. Further experiments are required to ascertain how frequently spraying is necessary, but possibly twice or thrice would be necessary, according to the season.

Appointment of Dr. A. S. Horne.—We are pleased to learn that the Ministry of Munitions have consented to the transference of Dr. Horne from munitions to horticulture. Dr. Horne's appointment is in connection with the control of plant diseases in Sir Arthur Lee's Department, and he returns to Wisley more particularly for the purposes of plant disease investigation in the Horticultural Section of the Food Production Department under the direction of Dr. Keeble. In a recent issue of The Garden we referred to the unfortunate interruption of Dr. Horne's useful work in connection with the diseases of Potatoes, Gooseberry mildew and Apple spot. We omitted to mention, however, that Dr. Horne's wife (*nee* E. V. Esling, A.R.C.S.) volunteered and obtained the consent of the Director to keep the investigations going during his absence. Owing to this thoughtful provision the American Gooseberry mildew and fruit spot of Apple investigations have not been abandoned, and excellent progress has been made.

DRIFTS OF CROCUSES IN A LONDON PARK.

Mrs. Edwin Molyneux.—The wide circle of friends of Mr. Edwin Molyneux, V.M.H., the well-known horticultural expert of Swanmore, Hants, will learn with the greatest sorrow of the death of Mrs. Molyneux, which occurred on the 18th inst., after a long and fluctuating illness. Mrs. Molyneux was a charming helpmate and hostess, as her many friends and acquaintances can testify; and we are sure that all who know Mr. Molyneux will join us in tendering to him and his daughter our deepest sympathy in the sad and irreparable loss sustained by them.

Crocuses in the Grass.—In these days, when spring bedding seems almost a thing of the past, it is with feelings of great joy that we welcome the appearance of Crocuses in the grass. The illustration on this page shows a delightful planting of these favourite bulbs in a London park. The yellow Crocuses are badly pecked by the sparrows, though the birds seem somewhat indifferent to the purple and white varieties.

Royal Horticultural Society's War Horticultural Relief Fund.—An orchestral concert will be held at Queen's Hall, Langham Place, on Saturday, the 28th inst., at 3.15 p.m., in aid of the Royal Horticultural Society's War Horticultural Relief Fund. The programme is to be rendered by the Strolling Players' Amateur Orchestral Society.

British Pine Seeds for France.—In order to assist in re-establishing the forests of France so severely devastated during the war, the Agricultural Relief of Allies Committee, with the co-operation of the Royal English Arboricultural Society, are this week sending a quantity of seeds of Scotch Pine to Dieppe. Close on 1,000lb. of the seed have been obtained from British forests, and will be given to the peasants and small proprietors, who in France own a considerable area of forest land. Free facilities for the conveyance of the seed have been provided by the British War Office. The gift has been greatly appreciated by the French Government, and the mature trees will form near the battlefield a permanent memorial of the close alliance and sympathy, not only of the British and French troops, but of the farmers and arboriculturists of the two nations.

*** *Readers who have not already done so are asked to order* The Garden *to be delivered regularly by their newsagent. The Board of Trade have decided to prohibit the return of unsold copies of any journal to publishers from April 30, and in consequence* The Garden *will be obtainable after that date* only *if ordered beforehand.*

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Bee-Keeping: Making a Start.—Mr. L. Bigg-Wither's note on this subject is not very encouraging. A writer in the *Field* recently recommended Dutch bees, and stated that they could be obtained from Mr. William Channel of Grove Apiary, Histon, Cambridgeshire. I reproduce his note, as it may interest readers of THE GARDEN: "As to the best means of starting hives with them—if the enquirer is a beginner and has no stock of bees already, the best way is to procure a six frame lot in April. They would cost about 30s. f.o.r., and should, with reasonable luck, give some surplus during the season. Another way is to buy a swarm as early as possible, in May (this should weigh about 3½lb. to 5lb., and cost 5s. per pound). They would build up into a strong stock, but little surplus could be looked for this year. Of course a fertile Dutch queen bee could be introduced to any existing stock of bees after it has been made queenless. Dutch bees have a reputation for resisting Isle of Wight disease, but they are inveterate swarmers, and need to be very closely watched.—John Wilder." I might add that throughout this neighbourhood there is hardly a sound hive of bees.—ARTHUR R. GOODWIN, *Kidderminster.*

The Common Comfrey.—Is the Common Comfrey, Symphytum officinale, edible and palatable to human beings? If it is, how should it be cooked?—ALFORD. [We have never tried the Common Comfrey, but we learn from others that the leaves are boiled like Cabbage. The plant is slightly astringent and has been regarded as a styptic and vulnerary, but its qualities in these directions are said to be slight. The plant has been used as an emollient, also for bronchitis, &c. Johnson and Sowerby in "Useful Plants of Great Britain," page 182, say: "The leaves, when young, form a good green vegetable, and are not unfrequently eaten by country people where the plant abounds; when they are fully grown they become coarse and unpleasant in taste. They are sometimes used to flavour cakes and other culinary preparations."—ED.]

Making Mead and a Recipe for Cooking "Parsneps."—The accompanying recipe for cooking "Parsneps" is culled from a quaint old cookery book lent me by a certain young acquaintance (who wickedly accuses me of adorning my conversation with "culinary comparisons.)". The book contains many recipes for making mead. I am ambitious to try my hand at this, if I get enough honey from my hives to spare some for a small experiment. The directions *appear* to be extremely simple, but I guess "there is a catch in it somewhere." If any readers have made mead, I shall be grateful if they will tell me if this is so and where the risk of failure lies. "To dress 'Parsneps.'—Scrape well three or four good large roots, cleansing well their outside, and cutting off as much of the little end as is fibrous and of the great end as is hard. Put them into a pot with about a quart of milk upon them, or as much as will cover them in boiling, which do moderately, till you find they are very tender. This may be in about an hour and a half. Then take them out and scrape all the outside into a pulpe, like that of roasted Apples, which put into a dish over the fire with a little of the milk you boiled them in, put to them, not so much as to drown them, but only to imbibe them. When with stewing the pulpe has imbibed all that milk, put to the pulpe a little more of the same milk, and stew that, till it be drunk in. Continue doing thus till it hath drunk in a good quantity of the milk, and is well swelled with it, and will take in no more, which may be in a good half-hour. Eat them so, without sugar or butter, for they will have a natural sweetness that is beyond sugar, and will be unctuous, so as not to need butter."—ANNE AMATEUR.

Wood Anemones and Snowdrops.—On April 12, after a rather heavy snowstorm, I was surprised to find on a southern bank at 900 feet on Mendip (an Ordnance Bench-mark indicating 905 feet is close at hand, on the highest part of the road to Nordrach and Wells) three Wood Anemones among patches of fast-melting snow. They had been embedded in snow that morning. It reminded me of the way the beautiful Anemone vernalis pushes through the melting snow in the Alps; and I wondered if much alternate snow and brilliant sunshine could account for the early blooming at that altitude. Close by were Hazel catkins still shedding pollen, and I gathered a twig with six pistillate crimson flowers in perfect condition arranged alternately down the stem—a very unusual number. In a cottage garden not 200 feet lower, Snowdrops were only just past their best; and a week earlier they were still in perfection at Blagdon (altitude about 350 feet). Since my note in THE GARDEN (March 24) on Ceterach, I happen to have seen good examples of the variety crenatum of this Fern on two walls a mile apart. It appears to have been recorded from only one locality—also on Mendip—in the county of Somerset.—H. S. THOMPSON.

Potatoes.—It is quite likely that many of the rather unpromising-looking plots now being brought under notice may give a respectable return in Potatoes, for these have a marked reputation for responding to virgin soil, especially turf. In fact, they are a responsive crop to soils of all kinds, except those with very stiff subsoils, because persistent cold and wet below they cannot stand, as they are of semi-tropical origin, and revel in light and sun. However, they are very accommodating as to temperature, and their range in this respect is great, and beats many native plants. *The* disease is their great enemy, but the large amount of fresh ground available now is in their favour. At any rate, it will make for a wholesome change of seed next year, for newly reclaimed land is good in this respect, like turned up grassland, and they will probably in such cases do for three seasons without renewal, especially if sprayed. It is the omission to do this on old land that causes such heavy annual loss. There is no doubt of this, and small societies or clubs should be formed to provide spraying materials. Otherwise nothing may be done. This method of dealing with spraying has been found to work well in the West Indies, where co-operation was first looked on askance. The writer knows a man in a county full of Potato disease who sprays and practises green-manuring annually, and his crop is about double that of his neighbours, although he has used the same ground for many years—I think consecutively. He digs in Cabbage of sorts, strongly grown, and Tares along with it. Early sowing, early sorts, and early land all help to ward off disease.—G. T.

Trenching.—I was very glad to see Mr. Beckett's bold exposition of his method of soil treatment and his and subsequent denunciations of the bastard trenching method. The stereotyped patter that we have received from years gone by of rule of thumb methods ought almost to be worn threadbare, and from a chemical point of view bastard trenching as advocated was wrong, because it only provided for breaking up the third spit for drainage purposes, but leaving it *in situ* and untreated even although it is admittedly in an *acid* condition. What could be worse or more foolishly ignorant? It has always been argued by "gardening journals" that one of the causes of canker in trees is sour undersoil; so why not, in all common sense, advise the treatment of the "third spit"—if it must be left there—with lime? Even this week a contemporary gardening journal is giving the usual copy-book advice on bastard trenching, but with the further suggestion that this third spit can be improved by the addition of good soil and leaf-mould and *some* lime. In this case, what is the good of adding lime to this spit with leaf-mould, since the lime will wipe out this humus in a few short weeks? No; Mr. Beckett's plan is the only right way to treat soil; that is to say, the texture should be the same throughout down to such a depth where the undersoil ceases to be of a true loamy nature and becomes gravel, sand or the like. I do not agree that Mr. Beckett's method *depends* upon additional artificial drainage methods and the top-dressing of the surface with higher quality soil or the like. The artificial additions for drainage would apply to any soil if the undersoil is not sufficiently loose or sandy to carry it away. That does not alter the fact that to leave a known sour or acid soil deliberately at the bottom because it is acid is wrong and indefensible. There is no better treatment for soil texture and condition than by the atmosphere and proper correctives for acidity, but the dressing of the same with artificials and new soil is accentuated when the third spit is left below, because two spits will become worked out sooner than three spits of depth well turned over and incorporated. If the soil is heavy and the loam goes *deeper than three spits*, then obviously artificial added drainage is of advantage to the soil, whatever the manner of digging, but it does not imply or prove that Mr. Beckett's method is dependent upon it. His way is right, and the only true way to allow the atmosphere to act upon the whole depth of soil as it is turned up from time to time.—S. J. HUGHES, 41, *Leyborne Park, Kew.*

Swedes.—I was rather surprised to read in a recent article by "Anne Amateur"—whose contributions I always enjoy—that Swedes were not of general domestic use. Here they have been in such use for more than fifty years to my own knowledge—how much longer I cannot say—and have always been known as "Rooties" (Ruta Bagas). The name "Swede" is quite unused here and not very generally known, hawkers always shouting "Rooties, Rooties." They are sometimes mashed and seasoned with pepper, salt and butter; but their most frequent use is in the famous Cornish pastie, in which they are considered almost indispensable. The leaves are not sold for food, these being cut off beforehand. Until the attention of the Food Controller was directed to "Rooties," a fair-sized one could be bought for a halfpenny. The price is now doubled.—L. E. C., *St. Ives, Cornwall.*

Seakale Beet.—This vegetable, illustrated in THE GARDEN of April 14, page 121, was quite new to me last year, when we sowed a piece of well-manured ground in my garden about 2 yards square, four lines of which were

subsequently thinned out. The seed was put in what I called very late, viz., early in May. It came up at once and grew very rapidly, and every week that spot of ground furnished us with some vegetables right up to the frosts in November. The stems are excellent, but they must be boiled a lot, and the tops make quite good Spinach. But that is not all. To my amazement nine out of every ten plants have survived the winter and are looking quite strong. (They were quite unprotected.) We had here as much frost as anyone, and the ground was frozen quite a foot deep. Having sprinkled a mixture of Rito and wood-ashes round the roots and forked the ground over, I expect some good results in another three weeks. I may say that I have never seen a more fruitful piece of ground than that 2 yards square. This year we are planning a flower border of this Seakale Beet, alternated with Beetroot.—W. F. M. Copeland, *West View, Shirley, Southampton.*

Potato Substitutes.—The popularity of Potatoes, especially among the poor, is owing to their cheapness in normal periods and the fact that their preparation for food occupies but little time. In suggesting Pease pudding as a substitute, your correspondent "W. D., Altrincham," seems to regard the question of cost as but a minor matter, instead of the all-important one to the majority of people. A pint and a half of split Peas will cost about 8d., four eggs 8d., a quarter of a pound of margarine 3d. at the very least. This, with the pepper and salt, amounts to, roughly speaking, 1s. 7d., so that the substitute for the humble Potato is a decidedly expensive one. I am very fond of Pease pudding, but should look upon that advocated by your correspondent as a dish suitable for a meatless day instead of being supplemented by rich meat, such as pork, ham, &c. This last savours far too much of extravagance, and is quite hostile to the spirit of economy which we are so continually told is necessary for the welfare of the country. Personally, I think that one of the most satisfactory Potato substitutes at the present time is plainly steamed Rice, as Haricot Beans are so expensive. Many preparations now recommended are very nice, but the fact that they take up a great amount of time militates against their use when the whole of the household work falls to the lot of one pair of hands.—H. P.

The Judas Tree.—There are in this town two Judas Trees, and their magenta blossoms in the spring are beautiful, and in the autumn, too, the red-brown seed-pods and leaves against a background of blue sky are not without charm. If you could give me information about the Judas Tree I should be grateful. What is its classical name, and why is it called "Judas"? Where does it come from? I am told it is often seen in Italy and Portugal. The tree is not common, and the cultivation of it certainly makes the world more beautiful than we found it.—P. B. B., *Weston-super-Mare.* [This tree, which is so extremely beautiful in flower and leafage, is believed to be the one chosen by Judas Iscariot when he hanged himself. Its botanical name is Cercis Siliquastrum, and it is a native of Southern Europe. It has Pea-shaped flowers, which appear in spring before the leaves. The fact of its flowering usually about Good Friday may have something to do with the name Judas Tree. It is of slow growth, and has been a favourite in the gardens of this country for about 300 years. The largest tree we have seen is in the Botanic Garden, Cambridge, where it thrives in a well-drained soil; and this is probably one of the largest in the British Isles. This particular tree is of low-branching habit, and it has been stated by an old employé of the garden that the branches are very slowly revolving, so that those now growing to the east were at one time facing north; but there is some doubt as to the accuracy of this statement. There is at least one other tree that Judas is credited with having selected for his self-destruction: it is a variety of the Mountain Ash, which grows on the slopes of the Rhodope Alps. To this day it is called the Cursed Tree by the Bulgarians, and it is said that the wood will not burn; anyway, the Bulgars decline to use it even for camp fires. Mr. E. A. Bunyard, commenting upon the Judas Tree in a recent issue of *Country Life*, says: "The legendary association of this tree with the disciple Judas is of some antiquity and seems to have first been given currency by Gerard, who writes in his Herbal, 'It may be called in English, Judas Tree, for it is thought to be that upon which Judas hanged himself, and not upon the Elder as is vulgarly said.' It is rather surprising to see this legend still maintained, as Alphonse de Candolle has pointed out in his 'Origine des Plantes Cultivées' that it is based upon a mistranslation of the French name Arbre de Judée. To collect such curiosities of translation and adaptation would provide an amusing chapter. The Apple Belle et Bonne becomes in English Bellyband, and more curious still is the Pear named Leaping Diver. The explanation given was that the tree when being landed on these shores fell into the water, but was rescued by a bold diver who leaped after it and brought it safely to shore. When, however, we find this Pear identical with the L'Epine d'Niver of France, a less circuitous explanation offers itself."—Ed.]

THE JUDAS TREE IN THE BOTANIC GARDEN, CAMBRIDGE.

NOTES FROM THE RIVIERA

By Edward H. Woodall.

THE long and cold winter has been felt in the South of France as elsewhere, though mitigated by sunshine and latitude, so vegetation is later than usual, but not exceptionally so. Plane trees are in young leaf this Easter Week, and Horse Chestnuts are rich in foliage and opening flower-spikes. Banksian Roses are unusually late, while the white, sweet-scented Acacias (Robinias) are actually leafing *earlier* than is their custom. Why this should be so is a puzzle to me, as the flower-buds are so late. For the first time I have seen that Jasminum primulinum has suffered in its flowers in cold and damp situations, showing clearly how much less hardy it must be than J. nudiflorum.

Acacia verticillata must be a very hardy tree; it is in fullest vigour and beauty, as if it enjoyed the cold and the wet. It must be better worth planting in England than the earlier-flowering A. dealbata, and is certainly even less requiring, as it will grow on limestone as well as on sand and peat.

After an eclipse of two months the trails of pink Ivy-leaved Pelargoniums are asserting themselves gaily. Wistarias and Judas Trees are waiting for a little more warmth at night. Malus floribunda is, I think, much more brilliant in its colour than usual, and Dendromecon rigidum is such a blaze of yellow that it almost rivals the many species of Acacia now in flower. The early Roses, notably General Schablikine and Dr. Rouges, are in good flower and give us a foretaste

of what is to come early in May. The wealth of Irises and Tulips recalls England in early June. May you have this brilliant sunshine when they open with you!

A curiosity of the season is worth recording. For some years I have had a good plant of Lælia anceps growing healthily on an Olive tree and making very fine pseudo-bulbs. Last December, when the cold weather began on the *fifth day of that month*, there were several spikes of flower nearly ready to open. The cold and wet so thoroughly checked any further growth that I gave up all hope of seeing an expanded flower this season. On Good Friday, however, the sun was very bright and two flowers opened, months later than they should have done! The colour is extremely bright, but the blooms are only half the size, as might be expected after enduring months with the night temperatures frequently very near freezing and many days of cold winter rains at a temperature below 48° Fahr. If it makes good growth in the coming summer, as it has previously done, no one need despair of growing it in quite a cool house. Owing to the cold and wet I put my pots of Cymbidium Lowianum under cover in an unheated little shelter, and they have developed very fine flower-spikes and are now in much beauty in the open porch, so they, too, may fairly be described as quite hardy in this climate.

HARICOT BEANS

HARICOTS are among the many foods that have so rapidly advanced in price owing to the shortage of Potatoes, and now that we are urged to grow all vegetables having a high food value, it should be advisable to grow Haricots more largely. At anything like present prices they should be a paying crop, especially as very little labour is required after earthing-up. There seems no reason why they should not succeed all over the South of England at least, except where the soil is too wet; and most seasons would give good returns. The Dwarf Beans and also the climbing kinds are largely grown by almost all cottagers in France, and at the end of September and in October one can see the dried Beans hanging up in all sorts of places. The taller kinds are grown in much the same way as they are grown here, viz., by taking out a shallow trench and sowing early in May, according to the district. In the region about Paris it is not safe to sow before that date, or later in some seasons. For field culture the dwarf kinds are largely grown, and give good results.

The method of culture followed by most people in the districts of Normandy is, briefly, as follows: The ground is ploughed deeply in early spring and well worked with harrows when possible. When the soil is broken and in good condition, it is made up in early May into ridges about three-quarters of a yard apart. On a fine day about the third week the seed is sown on the sunny side of the ridges by a man making a small hole with his heel, putting in seven or eight seeds in each and covering slightly. These clumps are about 20 inches apart. In about ten days the seedlings appear, and then the ridges are split by a small plough. The Beans in this way are well moulded up, this soil protecting them from cold and wind. From this time, provided the ground is clean, very little attention is required until the Beans are ripe.

If the autumn is dry it is an easy matter to harvest them; but if wet it takes a long time to get them dry enough to store. They are frequently strung on wires between trees, or hung in an open shed to dry. Two clumps are tied together and are slung across the wire by a wisp of straw, and when fit are placed in an open shed, close up to the roof, until required for use. Before being used it is necessary in damp weather to place them close to a fire or boiler so as to make the seeds readily come out from the pod when beaten in a sack. When screened they are fit for use. Screening is usually reserved for wet days.

STAKING RUNNER BEANS AT ALDENHAM.

With us the name "Haricot" is only applied to the dried seed, but the French call all sorts of Runner and Dwarf Beans "Haricots." Haricots verts are the pods as we usually eat them in summer when they are green. Haricots mange-tout are those that we know as "stringless." Haricots flageolet are the seeds gathered before they are ripe and when about three-parts grown, usually of the varieties "non-stringless." These are very much in demand, and are sometimes served with the green Beans and sometimes as a separate dish with melted butter or Parsley sauce. These can be had in this form from May (where forced) to September, and they may be preserved for winter use in boxes. They must be gathered when nearly ripe and carefully stored.

Dried Haricots or Haricots Secs.—These are the dried seeds of any of the kinds mentioned below, grown as described and preserved in winter and spring. The Beans that are so often grown here, viz., Scarlet Runners, are not favoured very much by the French. The tall varieties grown are numerous, but one of the best is Haricot de Soissons blanc à rames. This is the one frequently sold in shops here. Of course, others are used also, but the Soissons is considered to possess a better flavour. Haricot St. Fiacre and the varieties of Haricot Coco are also well worth growing. Among the dwarf kinds, I think two of the very best are the Golden French Bean and Green Gem, both of very fine quality used either green or as flageolet or dried. They give a very heavy crop of seeds of good quality. The best French kind is Flageolet Chevrier de Soissons nain (white-seeded).

The kinds known as "stringless" here are also worth growing, and give very heavy crops. Varieties such as Sutton's Masterpiece, Sugar Beans and Vilmorin's Haricot de Prague are all good. The Butter Beans can also be grown in the same way. The tall Mont d'Or Waxpod and the Dwarf Golden Waxpod are both very good.

L. L.

VEGETABLE WASTE

BY EDWIN BECKETT, V.M.H

NOW that the country is facing a critical period of food supplies and great endeavours are being made to conserve our stocks while increasing production, it would perhaps be valuable to consider ways and means of greater saving efforts. I recall a paragraph in Mr. Eustace Miles' book, "What Foods Feed Us," published in 1905, in which the following words appeared: "There is a terrible waste going on in England. We need a war to make us realise in how many ways we are recklessly wasting foods." These words have proved grimly prophetic of the present days.

How much good food, for instance, is wasted from Potatoes in the peeling process, and, in addition, what valuable chemical salts are removed—salts which form just under the Potato skin and which are so fine in helping to destroy the deadly uric acid in the human frame, which is the base of various bodily ills. In the case of Turnips, Carrots, Onions and Parsnips, the peeling destroys so much food, and this waste occurs in nearly all households, be they large or small. Again, in preparing the Beetroot for table, so many remove far too large a part of the crown, and this part, to my mind, is the most delectable portion of the Beetroot. Again, the outside leaves of Cabbages are so often thrown on the waste heap, yet most of these, when properly cleansed, should form a very useful ingredient for soups. The outside leaves of Lettuce and Endive can be used as palatable vegetable food, also the leaves of Beet, Turnips and Carrots, which can either form

constituent parts of salads or appear at table as cooked vegetables. The outside stems of Celery are another valuable food so often discarded as waste, yet for soups or as a boiled vegetable what could be more delicious?

In the hedgerows and fields appear other useful foodstuffs—Hops, Nettles, Sorrel and Dandelion. The latter is invaluable in salads, while Nettles can be cooked like Spinach, to which they bear a close resemblance in flavour. Sorrel, when used half and half with Spinach, cooked separately, is a favourite dish with the Belgians, and is most appetising. Hops, when young, are a fine substitute for Asparagus. Two other refuse vegetables occur to me—Pea pods and Broad Bean shells. The former cooked and rubbed through a sieve make an excellent soup; while we may recall an article which appeared in THE GARDEN a short while since which detailed a means of utilising the otherwise waste portion of the Broad Bean.

MANURING PEAS

ONE is often told that the Pea likes a rich soil containing plenty of organic matter. This advice is quite sound so far as it goes. As with many other vegetables, however, so with Peas and Beans, sweeping statements are made that do not pay sufficient regard to detail.

A rich soil for Peas means one that has been brought into that condition by previous cultivation, cropping and judicious manuring. It is true that the Pea will succeed better in a light, calcareous loam than on a clay soil. At the same time, there are certain *essential* elements of plant food that are not present in inexhaustible quantities in any soil. Obviously, then, all crops remove plant food that must be replaced by the addition of manure before the following one can be expected to succeed.

Peas require plenty of lime, and the main point to be observed in manuring the crop is to supply lime—if there is not already a good quantity of it present in the soil—and phosphates. Like other leguminous crops, the Pea can, if properly manured in other respects, secure most of its nitrogen from the air. But lime and phosphates must be present in such quantities as to meet the needs of the soil for that particular crop, otherwise it cannot even make use of the free nitrogen of the air, which is a further proof of the fact that for a crop to derive full benefit without wastage, the manurial constituents of the soil must be properly balanced.

Four-fifths of the air is composed of nitrogen, and leguminous crops are able to obtain nearly all they need from this source, providing they have sufficient phosphates and lime. That full advantage may be taken of this, neither Peas nor any other leguminous crop should be sown too thickly. Beginners often make the mistake of sowing in close drills across the garden bed, while others sow thickly in trenches; but, as a matter of fact, Peas should be so cultivated that the light and air can reach every part of the growing plant.

An amateur acting on the advice to sow in a rich soil would proceed to enrich it by the addition of fresh stable manure. Now this is not only unnecessary, but wasteful, because such fertiliser contains a good deal of nitrogen, and to supply this element unless the soil is particularly poor will result either (1) in the Pea crop making use of it to the neglect of that existing in the air, or (2) in the free nitrogen being utilised while that added with the manure is wasted, for be it remembered that soluble nitrogen, if not at once taken up by the growing crop, is soon carried away with drainage water.

In respect of nitrogen, the Pea crop adds considerably to the fertility of the soil, as more is "fixed" than is used. This ingredient is the most expensive one to purchase; therefore it is highly advisable to make the greatest possible use of the available air source. The Pea and Bean crop should be so arranged from year to year that it may be grown on every part of the garden. Gardeners do not take sufficient advantage of the benefits to soil offered by the cultivation of legumnous crops; but farmers, on the other hand, make them a regular part in the rotation. Peas may well follow and precede a crop which requires its nitrogen to be fixed for it in the soil, because (1) Peas do not require large quantities of nitrogen in the soil, and (2) they leave behind a good supply of it for the succeeding crop.

The nitrogen is "fixed" by beneficial bacteria living and acting on decaying vegetable matter in the soil—which is one of the chief reasons for supplying organic matter—and not leaving out of account the need of the Pea for coolness and moisture. Nitrogen is rendered finally available by bacteria living in little nodules on the roots of the plant. Whether bacteria exists or not can be ascertained by the presence or absence of these nodules. If absent they must be added. L. M. MARSHALL.

A WELL GROWN CLUSTER OF SENATOR PEA.

THE GROWING OF VEGETABLES

BY MRS. C. W. EARLE.

IT is with sorrow and apologies that I have to say I have received over thirty letters asking for cuttings of Artichokes. The week I wrote they were sprouting well, and we had 12° or 13° of frost which killed them all. How far the plants will recover I do not know. I am returning money and stamps, and trust everyone will understand that the failure to keep my offer is not my fault.

One or two experiments of mine with Potatoes, though not quite seasonable, may be useful. It is better not to fork the early Potatoes, but to scrape away the earth either in a frame or out of doors, pick the larger Potatoes, and quickly cover up the small ones to grow on. Another very useful plan when taking up the maincrop Potatoes is to wipe the smaller ones and have ready old tins, biscuit boxes, &c., put the Potatoes in them, bury the tins deep enough to have a foot of earth on the top of them, and a stick to mark the place. (One tin of ours was left till the middle of March, and the Potatoes were excellent.) They come in as a surprise dish at Christmas, and are so good that I always regret there are not more of them. The difficulty is the number of tins one can collect. It is not necessary for them to be air-tight; the earth keeps away the air.

The scarcity of winter greens this unfavourable spring makes me think much nourishment might be got out of the stalks of Cabbages, Brussels Sprouts, &c., that are now everywhere thrown on the rubbish heap. If cut up and boiled down without soda or salt they would make an excellent soup for children's supper. No water in which vegetables have been boiled should ever be thrown away. English people do not like soups or stews, but now they have got to try to like them. The

poor in France and Belgium have lived on them from all time. Towards the end of the last century —say, 1870—there was a scare about the popular and wholesome herb called Watercress being often grown in ditches and streams contaminated by sewage, and the children were forbidden their Watercress at tea-time. Shakespeare says "we may pick a thousand salads, ere we light on such another Herb"; but in Shakespeare's day all the refuse of houses lay at the front doors and never reached the streams and ditches. In 1878 Shirley Hibberd brought out a charming little book called "Home Culture of the Watercress" (E. W. Allen, 11, Ave Maria Lane, E.C.). This book would teach anyone who could find time—and it would take but little time—how to grow Watercress in a back yard in pans, troughs, or beds and forcing frames, and enable anyone who had the taste to supply the household *in all seasons* with Watercress of the finest quality at a merely nominal cost of money or labour. It would be a charming task for any rather delicate woman or girl unable to do harder work. It is equally desirable for the crowded suburb or far away on dry hills in the country where no Watercress can be bought.

One other unusual thing I must bring in now, because it is the time of year to sow it, is the improved Alpine Strawberry so very much cultivated and eaten in France, and appreciated by children as the fruits are so easy to pick. That called the Red Alpine is, I believe, one of the best, and the seed must be obtained from a first-class nurseryman. It is best sown every two or three years, as plants grown from runners deteriorate. When well grown they produce fruits from June to September, and are an excellent addition to Strawberry jam. In France they cultivate a kind called Bush Alpines, which make no runners. All kinds must be kept weeded and watered.

STREAMSIDE GARDENING AT MOUNTON HOUSE

By H. Avray Tipping, M.A.

THERE is something very sympathetic about a wood. There is not only the beauty of its trees and herbs, but also the charm of seclusion, of aloofness from man and his artifices, and of nearness to Nature and her works. To pass straight away from the terrace and lawns into a bit of woodland is to absorb the fulness of gardening satisfaction, and should be made good use of where the juxtaposition exists, or be created wherever circumstances allow. If the wood is not only there, but is rich in features—possesses, for instance, rock and stream —then the elements of a complete garden of pleasure are surely there. It was the wooded hanger, with its limestone cliff and upcrop, and the babbling brook dancing gaily at its base, that decided the site of Mounton House, which did not come into being until some years after the wild and water garden had been developed. The stream originally divided the steep wooded ascent from a strip of flat meadow, and some planting was begun about its banks. But while it was apt to shrink to a mere rill in dry weather, so that water plants wilted by its side, in rainy seasons it became a rushing torrent overtopping its banks. I remember a flood coming down soon after I had been setting batches of such plants as Primulas and Astilbes down to the edge of the water at its normal level. When the flood subsided few of the plants were to be found where set, but a search two or three feet up among the bushes disclosed a goodly number hanging from the twigs by their roots like Absolom by his hair. Well established plants flourish by the edge of the water, but a different and more defensive home was clearly needed for lesser subjects calling for cultivation and replanting. So a subsidiary stream bed was constructed in the meadow ground, with bay and bluff, hill and dale in miniature, imitating a little bit of natural tumbled ground through which a rivulet might meander. The water was let in through the real stream bank by a pipe, of which the capacity fixed the maximum of supply and which, moreover, can be plugged, so that the flow is completely stopped when that is an aid to gardening operations. Nothing succeeds better here than Primula rosea, which sows itself freely among the rock chinks, and even on their face where it is mossy. The brilliant coral red buds jewel the ground before March is out, and then the stems grow up and the pink blooms expand for an April show. Earlier than this Himalayan Primrose are the Snowdrop and the Spring Snowflake, the Winter Aconite and the Hellebores. Of the latter, the Corsican variety, with its finely formed and displayed foliage and heads of large yellow green flowers, is very handsome rising behind and partly falling over rocks. The Christmas Rose does poorly here, but its Lenten relative—Helleborus orientalis and its hybrids—flourishes excellently and gives whole rifts of early spring bloom ranging in tone from almost pure white to deep purple red. These are subjects for the banks where the woodland begins, but near the waterside Omphalodes verna creeps along and, mingling with Primula rosea, gives touches of bright blue among the pink, and this colouring is intensified by the upcrop of masses of Grape Hyacinth, while the nodding buds of the Florentine Tulip (Tulipa sylvestris) rise through all to expand into yellow bloom. Meanwhile, Funkias and Rodgersias show signs of life and of their later overshadowing of the lesser growths, such as Clintonias and Saxifrages of the London Pride section, which luxuriate in the damp soil about their feet. May-time, when the photographs now reproduced were taken, finds a fulness of flower. On the steep, stony banks of a little sunken run of clear water, where Watercress has established itself, the slaty blue heads of Camassia Cusickii rise from among sheets of Tiarella cordifolia and Mossy Saxifrages, as the illustration shows. A path made of the flattest of the local stones winds about, now high above, now on a level with, and now stepping across the artificial stream whose denizens we have been describing. But the natural brook, despite its uncertain temper, has its edges embraced by strong-rooting subjects. Early, Caltha polypetala and, later, hybrid Mimuluses stretch themselves from the edge well into the water. Still more invasive of this element, however furiously it may at times rage, is Saxifraga peltata. Its big, fleshy, creeping rootstocks, like the paw of an animal,

TIARELLA AND SAXIFRAGE HANGING OVER THE WATERCRESS BED AT MOUNTON HOUSE.

move steadily onward, sending out laterals which push over and under each other, and mat together to form ever-growing blocks that may rise from the water as islets of sufficient solidity to step on to. From them in early May spring tall stems, which, on reaching a height of two or three feet, burst rocket-like into the heads of pink bloom well seen in the illustration. Before they fade the leaves begin to push up, forming in full summer-time great green bowls up to 18 inches across and turning to rich colour before the gales and frosts of late autumn batter and brown them. Further from the water and in partial shade, Dog's-tooth Violets, European and American, Canadian Wood Lily and Bloodroot are followed by Campanulas and Columbines, Phloxes and Heleniums. Behind, again, come bushes, Savins and Pernettyas for evergreen; Viburnums, Deutzias and Spiræas for bloom. For years the best shrub display has been afforded by a group of Fuchsia globosa standing among rocks high above the water, but reflected in it where it expands into a still pool, and reaching a height of ten or twelve feet. But this winter has been too much for it. It is certainly cut to the ground and, being well on in years, may not have energy and courage to begin life again from the ground-level. Among other well-represented herbaceous families are the Meadowsweets, the lordly gigantea, the purple Davidii, the pink palmata and venusta, the white Aruncus and Filipendula. The Anemones give a long season, beginning with Hepatica, blanda, apennina and the pale blue varieties of nemorosa, passing on to sylvestris and rivularis, and ending with white and pink varieties of japonica. The Iris family is represented by various forms of sibirica, and there are Globe-flowers, Meadow Rues and Primulas galore. To mention more would be to turn this article into a catalogue; but a word must be said of the Crane's-bills. The rich blue Geranium grandiflorum and the lovely veined pink Lancastrian variety of sanguineum are largely grown. But there is also a much less well known member of the family. The catalogues I consult and the gardens I visit habitually ignore it. It came to me years ago from the Newry Nursery under the name of atlanticum. It is tuberous rooted, and its peculiarity is to throw up foliage in autumn which, like that of Cyclamen europæum, persists till the following summer. Its well displayed, deeply cut, rich green leaves are a joy through the winter, and have withstood even the frosts and blasts of this pernicious season. In spring the flowering stems push up, reach the height of 18 inches, and branch into the heads of large purplish pink blooms which the photographer caught at their best moment last May. As "wildness" is the keynote of the water garden, and implies no further disturbance of the mossy surface of the soil than a removal of coarse weeds and curtailment of over-vigorous plants, this Geranium has to struggle for existence, but does it successfully, and therefore appears to me an excellent subject for the semi-naturalisation which, where rightly ordered and successfully attained, is one of the most sympathetic forms of modern gardening.

SAXIFRAGA PELTATA.

THE ALLOTMENT WEEK BY WEEK

By A. Cecil Bartlett.

IN view of the late unseasonable weather, which delayed seed sowing, the allotment holder would be well advised to purchase a few seedling vegetables so as to ensure earlier crops than will be available from his own raising. Many trade growers offer seedling plants of Cabbage, early Cauliflower, Brussels Sprouts and Borecole at reasonable prices, so that the purchase of, say, fifty plants of each need not entail any great expense, and it would be money well spent. Such seedling vegetables have been, for the most part, raised from seeds sown early in the year in warm glasshouses, and if they are bought from reputable firms they are sure to have been properly hardened before delivery, so that they may be safely planted out as soon after receipt as circumstances and the weather permit. The fortunate workers who made up a frame on the lines advised in this column will, of course,

GERANIUM ATLANTICUM.

be independent of others, but these are necessarily in the minority.

Spring-raised Cabbages may be planted out 9 inches apart each way—alternate plants will be used before they attain full size, as greenstuff is so very scarce, and then there will be ample room for the remainder to fully develop. As the Brussels Sprouts require a long season and will remain a considerable time, they must be allowed at least 2 feet 6 inches from plant to plant each way for average soils, though 3 inches less will do on light or poor soils. The Brussels Sprouts should be given an open situation, but such early Cauliflowers as Early London, Early Snowball, May Beauty and The Pearl may well be planted in such places as between the rows of Peas and on the sunny side of the Celery trenches, where they will head quicker than in the open. For these early sorts a distance of 12 inches is ample, but the later and larger Autumn Giant requires double that distance. It is too early to plant Savoys, even though a departure from custom were made and the seedlings large enough, but a dozen or so plants of any early sprouting Kale would furnish acceptable green vegetables during the summer.

The earliest-sown Peas and Broad Beans are just showing above ground, so extra soil should be drawn alongside the rows to protect the tiny plants from cutting winds. If Pea sticks are available they should be placed alongside the seedlings, even though of dwarf sorts, for Peas, when supported, pod earlier and more freely than when grown without sticks. Further sowings of Peas and Broad Beans should be made when the weather and time permit, but it is still too early to sow either French or Runner Beans. A row of Beet may now be sown to provide early roots, and all the Onions should be sown as soon as possible.

In all sowing and planting the temptation to overcrowd should be resisted. In the wish to obtain the fullest possible yield from the plot it is very tempting to reduce the distances between the rows of the various vegetables by an inch or two, as this would mean a few extra rows; but, as the crowded rows invariably give poorer results than when ample room is allowed, the total yield is less.

A LIST OF HARDY FRUITS

THE publication of selected lists of hardy fruits is always a hazardous business, and may be expected to produce a flow of criticism from those who find their favourite varieties overlooked or underrated. The Royal Horticultural Society has not, however, been deterred from making such an attempt, and the work before us contains much matter of interest. We read that the object is to simplify the rather overcrowded nurserymen's catalogues, and, in the words of the introduction, "The following list is an attempt in the direction of reducing this number to choose from." This work has been undertaken partly by the fruit committee, who produce a list of selected varieties covering seven pages; and the remaining 173 pages are filled with the replies to a series of questions addressed to gardeners in various parts of the country. This second section, we gather, the fruit committee are not responsible for. For the latter purpose groups of counties have been made, presumably on a climatic basis; but the reason is sometimes difficult to trace, as, for example, why Gloucester should be placed with Middlesex rather than with the neighbouring Western Counties, to which for many reasons it would more naturally be allied. The simpler divisions of Southern, Western, Midland, &c., would have been quite near enough for the purpose, as it can only be a very rough classification, as every gardener knows that certain varieties will do well in one part of the country and fail totally in another. Another objection to this method of counting votes is that there can be few gardens in which any large number of varieties have been tested. Gardeners can say *that of the varieties they have tried* so-and-so is the best; but to proceed from that and say so-and-so *is* the best for their county or district is a step that logic would not countenance. The introduction wisely counsels "a little consideration before their recommendations are adopted," and we think that, far from helping the ignorant amateur, the 173 pages of this book will but confuse him, and he would be wise to confine himself to the fruit committee's list, as it is in a very large degree a summary of the whole. As an example of the perplexity which would attend the enquiring "amateur," we turn to the lists for Wilts, Devon, Cornwall, &c. Here Ecklinville heads the list of early cooking Apples for standards, bushes, espaliers and cordons. A little lower down we read of it as a variety which "does not do well in places." We then turn back to the second on the recommended list, Early Victoria, only to find that this is likewise fickle in certain localities. The same applies to Lord Grosvenor, another recommended variety. Thus by a process of cancelling out we will be left only with the Rev. W. Wilks as a sure thing. But the introduction cautions us that this Apple has not yet been fully tested! The last state of that amateur . . . ! The conclusion that the expert will come to is that any survey which omits such important factors as rainfall and geological formations must be but a very rough guide, and even with this knowledge at hand we know as yet too little as to the relations of soil, climate and varieties.

The work has been, on the whole, carefully edited, but there seems doubt in some cases as to whether a French name should be anglicised or not. For instance, Count Althann's Gage may be accepted as a translation; but, if so, why not Count Lamy? "Bergamotte Esperen" will give a Frenchman (and some Englishmen) a cold shiver; but Bergamot Esperen would be accepted by both as a translation. Synonyms are given but once, it being unnecessary, as stated in the preface, "to continually repeat" them. Again, the shortening of names on the American plan, such as "Ribston" and "Allington," is probably a matter of taste or convenience, but it should be accepted or consistently rejected. Of misspellings there are but few, but Gascoyne's Seedling has a superfluous "g" added throughout. Beurré de Naghin appears as "Naghan." The printer has been careful with his accents, but Napoléon has been deprived throughout of his necessary "aigu," and in President Barabé a "grave" has been wrongly placed. "Stones Apple" without its apostrophe gives a lapidary suggestion that the fruit does not warrant. These are, of course, small matters, but not therefore negligible, as any work bearing the imprint of the Royal Horticultural Society will be taken as an authority. The amateur will not be greatly aided in his search for simplification unless he confines himself to the fruit committee's list which prefaces the volume, and this might perhaps be published separately at a cheap price in the interests both of the beginner and paper economy.

NARCISSUS SANTA MARIA.

THE EDITOR'S TABLE

THREE OLD-WORLD NARCISSI.

OLD garden flowers possess a charm entirely their own apart from their interest, which is often hidden in past history. From the Cornish nurseries of Messrs. Barr and Sons come the flowers of three delightful old Narcissi. The first of them is

Narcissus Santa Maria.—This is a beautiful hybrid Daffodil found by the late Mr. Peter Barr in North-Western Spain in 1887, and so named by him. Unlike some wild Daffodils, Santa Maria has shown itself amenable to cultivation, which is fortunate, as it has disappeared from its original habitat, where the ground is now under cultivation. Santa Maria is one of the deepest golden trumpet Daffodils in colour, is early, and produces a charming effect when naturalised in grass. The flowers are very elegant in outline, the perianth having a graceful twist. The second variety is

Narcissus Capax plenus (Queen Anne's Double Daffodil), which appears to have been grown in gardens for more than two centuries. Parkinson figured it in his "Paradisus" in 1629 under the name of Pseudo-Narcissus gallicus minor fl. pl., and referred to it as a "lesser French kinde." Herbert, in his "Amaryllidaceæ," calls it "Ajax Eystettensis." It has long been known in gardens as Queen Anne's Double Daffodil (not to be confused with Queen Anne's Double Jonquil). The plant grows 7 inches high, and the flowers, which are of a soft lemon colour, consist of six rows of petals symmetrically arranged over each other in the form of a star. This little Daffodil is best planted in sheltered nooks on rockwork where it can remain undisturbed for years. The third variety is the graceful and deliciously fragrant

Narcissus Tenuior, a very old garden variety which was first figured in the *Botanical Magazine* in 1794 from specimens grown in the garden of Mr. John Maddock of Walworth, who obtained bulbs under the name of "Narcissus flore sulphureus juncifolius" from Holland, where it appears to have been grown for a long period. It grows 9 inches high, has a light, graceful habit with Rush-like foliage, and bears several blooms on a stem, opening a delicate pale yellow and turning a paler tint with age. It has a resemblance to Narcissus gracilis, but blooms earlier and is of dwarfer growth.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—The plants raised under glass will now be ready for putting out into their permanent quarters. No green vegetable will produce as much food in the winter during the most severe weather and over so long a period as Brussels Sprouts. They are ready for use in October, and continue until the end of April if properly grown. Deeply trenched soil of any kind should be heavily manured to induce vigorous growth. If stems 3 feet to 4 feet high are obtained, there will be a huge crop of Sprouts. Where the plants are put out late and the cultural conditions are faulty, Brussels Sprouts may come into ill-repute, because the crop will be poor. Lift the plants carefully with a trowel, retaining a good ball of earth about the roots, which prevents a check to growth. Allow 2½ feet from plant to plant in the rows, which should be 3 feet apart.

Herbs.—No time should be lost in making new plantations of herbs. Where such kinds as Sage, for example, have got into a decrepit state, slips taken from the old plants quickly strike and produce fresh roots if dibbled firmly in the ground a foot apart. Thyme, Balm, Chamomile, Tarragon, Chives, Rosemary, Pot Marjoram and Mint should all be treated in a similar manner. Seeds of Sweet Basil, Borage, Chervil, Fennel and Sweet Marjoram should be sown at once, the first and last in gentle heat, hardening off the plants before putting them in their final quarters.

Parsley.—The plants raised from seed in heat should now be planted 6 inches apart in rows a foot wide, on a sheltered spot if possible. Keep the soil about them thoroughly stirred until they are well on the way, as slugs are at times troublesome. The stirring of the soil is the best preventive of slugs.

Endive.—Make a sowing of Green Curled and Batavian varieties in drills 15 inches apart, thinning the plants to a foot when they are large enough to handle. The surplus plants will make other rows if they are dibbled in during showery weather. Make other small sowings fortnightly.

Onions.—Fill up gaps in the autumn-sown bed and stir the surface soil about the plants, first giving a sprinkling of soot, which will aid latent growth. When an opportunity exists sow more seed of the ordinary spring-growing sorts, as all are sure to be required in the autumn.

Leeks.—If not already done, sow, in the open, seed of some good hardy variety, like Musselburgh, for planting in the ordinary manner in the open for late winter and early spring use.

Fruit Under Glass.

Figs.—Early Figs on back walls of vineries, or under the roof as a main crop, are swelling freely. Give a plentiful supply of water to the roots as required, especially where the borders are limited in their soil space; pinch out the point of strong shoots at the third or fourth joint, and remove any surplus shoots that are likely to overcrowd the remaining shoots. Very often the wood of Fig trees is too crowded, and now is the time to avoid this.

Strawberries in Pots, the fruits of which are approaching the ripening stage, should be freely supplied with liquid manure to swell up the fruits to a maximum size. Later plants on which the fruits are nicely set should have all the surplus berries taken off at once. From eight to twelve fruits of full size are sufficient for one plant to carry well. Special care in watering Strawberries should be exercised where the plants are near Vines or other permanent fruits, because dryness at the roots predisposes attacks of red spider, which are injurious to the permanent fruit crops in the house.

The Flower Garden.

Roses should be pruned without delay. Where late summer and autumn blooms are specially required, cut Hybrid Tea varieties hard back, say, to within 4 inches or 6 inches of the base, to induce vigorous shoots to push, from which the best blooms are obtained quite late in the season. Standards of any section should be cut back to within two eyes of the base. Dwarf Hybrid Perpetual varieties should be treated in a similar manner. Fork over the beds, adding manure freely.

E. MOLYNEUX.
Steward to W. H. Myers, Esq.
Swanmore, Hants.

QUEEN ANNE'S DOUBLE DAFFODIL.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cauliflowers.—Plant out successional lots, and as these will have been raised in frames, care should be taken to lift them with soil attached.

Potatoes.—Finish planting maincrop varieties, also see that early sorts which are through the ground receive protection from late frosts. Feathery Spruce branches laid lightly down the rows afford the necessary cover and are easily handled. Where they are growing in frames, the sashes should be pulled off entirely during fine weather, and so keep the haulm as sturdy as possible.

Beetroots.—A sowing of the Turnip-rooted variety may now be risked. Sutton's Globe is a favourite here, being far in advance of the ordinary Egyptian type. Sow in drills 15 inches apart on ground which was well manured for the previous season's crop, as when sown on recently manured ground the roots are inclined to be coarse and overgrown, with the result that many of them are worthless.

NARCISSUS TENUIOR.
An old fragrant Jonquil.

Endive.—Sow a pinch of seed for an early supply, and afterwards prick out on a warm border.

Lettuce.—Plants raised in boxes and duly hardened off may now be transferred to the outside border. These will come in nicely when the supply in frames is exhausted.

Radishes.—Regular sowings may now be made in the open border. Sow fortnightly, so that tender little roots may be ensured.

Onions.—No time should be lost in finishing the planting of Onions that have been raised in boxes or on hotbeds, as it is essential for them to have a good start before the Onion fly becomes troublesome. The middle of April is the best time for planting, but in late districts the conditions are not always favourable at that time. See that the ground is in good condition, and plant in rows a foot apart and allow 9 inches between the plants. Before raking the ground give a good sprinkling of wood-ash and work it in, as we find this most beneficial to the crop.

Tomatoes.—Plants for the main crop will now be ready for transferring to their fruiting quarters. If planting in borders is favoured, a renewal of the soil is advisable, as the Tomato is most exacting in its demands for certain chemicals, more particularly potash; so the old soil should be excavated to a depth of 15 inches and replaced with virgin loam which has been stacked for a period. This, mixed with some gritty material, makes an excellent compost. Refrain from using farmyard manure in the meantime, as this causes excessive luxuriance and is against fruitfulness. Rather wait until several trusses are well set and swelling, then give a mulching that may be watered in. If pots or boxes are used, do not fill with soil to the top, but leave a margin for top-dressing later on.

Fruit Under Glass.

Peaches and Nectarines.—Attend to the disbudding and thinning of these when necessary, also fertilise the later lot that are in pots. Ventilate freely during fine weather.

Vines in late houses will now require attention in the way of tying down the laterals and thinning

out superfluous shoots. Pinch the growth a couple of joints beyond the bunch. Bunches on Vines in the earlier houses will be thinned when ready. Always keep this work well in hand.

The Pleasure Grounds.

The Bog Garden. — Bog plants are beginning to send up young growth, so that one may now see where any necessary thinning out may be done, as there is always a danger of the stronger-growing Reeds ousting some of the more fragile water plants. Ranunculus Lingua and Villarsia Nymphoides must also be kept within bounds. Water Lilies may now be divided and transplanted in shallow baskets if further planting is desired. Several new groups of Astilbe Ceres were planted here on the margin of the bog last spring and have proved a valuable asset to the Spiræa family. Astilbe New Rose was also greatly admired; it is of much dwarfer habit than A. Ceres. Cyperus longus is also a handsome aquatic and may be planted now. JAMES MCGRAN.

The Gardens, Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

CHRYSANTHEMUM SPECIALISTS (*Withypool*).—Other Chrysanthemum specialists besides those mentioned by you are Messrs. H. J. Jones, Limited, Hither Green Nursery, Lewisham, S.E.13; and Mr. Norman Davis, The Nursery, Framfield, Sussex.

PELARGONIUMS TO NAME (*Curious*).—The blooms were somewhat damaged, but, as far as we can judge, the names are as follow: 1, Frogmore; 2, White Abbey; 3, Mrs. Lawson. The following make a good selection: Firefly, scarlet; Sir T. Hanbury, crimson; Carmania, salmon red; Madresfield, magenta; Mr. J. A. Bell, shrimp pink; Louis Chauvin, salmon; Queen of Italy, china pink; Mrs. Lawson, rose pink; Lady Warwick, picotee edge; Golden Lion, soft orange; Maxim Kovalevsky, orange scarlet; Lady Roscoe, delicate pink; Snowstorm, white; and Countess of Radnor, cerise.

PÆONY-FLOWERED DAHLIAS (*K. C.*).—South Pole and Queen Wilhelmina are among the finer white-flowered sorts, and Colonel Cody (orange yellow) and King Leopold (creamy yellow) two of the more distinct yellows. As you desire variety, it would be well to embrace the set of four named. Practical ways of trapping the Daffodil fly are not numerous, and, apart from that of netting, the only course open apparently is that of making the plants and soil distasteful to the pest. This may be done by saturating sawdust with paraffin, or by mixing it with a little soil fumigant, and strewing it among the plants. Syringing with Quassia extract with plenty of soft soap added might also be of some avail in the same direction. In either case they should be taken in hand experimentally, as nothing is known concerning their efficacy or their effect on the plants. That first named is certainly a deterrent in the case of a fly attacking certain tap-rooted vegetables; hence the suggestion that it might be worthy of a trial in respect to the Daffodil.

HARDY HERBACEOUS BORDER (*Tlalassa*).—We are not acquainted with any book on this subject giving plans likely to suit your particular requirements. So far as we know, no such book exists, and only by an elaborate series of plans could such a scheme be portrayed. If the border is of any extent, we think your better plan would be to entrust its arrangement to someone having a special knowledge of the subject. It would be quite safe to paint the outsides of the boxes, while the insides may be smeared with paraffin and then fired. First well smear the interiors either with an ordinary brush or by semi-saturation of the wood, and having set them alight with paper or shavings, turn the boxes upside down. This would have the effect of charring the wood. If the latter is thin or apertures for drainage are numerous, a damp sack should be at hand to smother out the fire. Wood first dipped in creosote would also resist damp and fungus, but should be done some time in advance of the boxes being required. The outside painting, in any case, should be done last. For the purpose named, however, we should employ plain wooden boxes without paint or any other preparation. If made of board three-eighths of an inch thick, with slightly stouter end pieces, they would with care last two or three seasons.

TREES AND SHRUBS.

EFFECTS OF THE ARCTIC WINTER (*A. H. R.*).—Erica codonodes can be increased by cuttings of short shoots taken in July or August and inserted firmly in sandy peat under a bell-glass in a close frame. Trees and shrubs injured by frost should be cut back at once to the point where the wood is alive.

EDIBLE BAMBOO (*M. M. W. C.*).—Shoots of the Giant Bamboo (Dendrocalamus) are sometimes eaten abroad, but nothing is known of the edible properties of Bambusa Métake and other hardy species. It is likely, however, that the culms could be used, when very young, like Asparagus.

KITCHEN GARDEN.

MUSHROOMS IN OUTHOUSES (*E. A. Harrison*).—It is a bad time of the year to start Mushroom growing under cover. Mushrooms do not succeed well when grown under cover in summer, the weather usually being too hot and the air too dry for them. But if you have any meadow or suitable turf land in which you would like to grow Mushrooms, now is the time to plant the spawn. It would not be possible in the space allocated to an answer to a question to give full particulars of how to grow Mushrooms in sheds successfully, but possibly we may be able to publish an article on the subject before the best time arrives for making up beds, namely, the first week in September. We may say that the requisites to possess in the successful growth of Mushrooms are a liberal supply of fresh manure from corn-fed horses, and good spawn. Given these two products and a knowledge of how to manipulate them, nothing is easier than the growth of Mushrooms, and, when successfully grown, they are perhaps the most remunerative crop of the garden. We will not further anticipate the information which no doubt will be forthcoming in good time beyond saying that the manure should consist of half-droppings and half of the short, littery straw which usually is collected with the droppings.

MISCELLANEOUS.

VARIOUS QUESTIONS (*F. A. R.*).—Any "fish guano" would serve the purpose. Apply to Messrs. Richardson of Skeldergate, York, as they are near you. (2) Yes; rub off all but the two or three strongest shoots of all Potatoes before planting. (3) We have no first-hand information with regard to this preparation, which as you know is a proprietary article.

SIZES OF POTS (*A. B.*).—Pots are measured from the inside just below the top. Thus a 4-inch pot is one 4 inches in diameter, inside measurement; a 5-inch pot is 5 inches, and so on. Thus, as worded by you, a pot is measured by breadth and not length. The flower sent is a white Crocus, evidently a garden variety, but the specimen was much withered up.

DRYING PEAS (*K. H. M.*).—The variety Harrison's Glory is largely grown in England for this purpose, but any green field Pea may be treated in the same way. The Marrowfat Peas are not suitable for drying, as they are inclined to turn yellow and shrivel. In Essex the variety Harrison's Glory is stacked with the haulm and afterwards threshed, the dried Peas being sold by the grocers. To hasten the cooking of dried Peas they should be steeped overnight in water to which a pinch of carbonate of soda has been added. An article on vegetable drying appeared in THE GARDEN of September 2, 1916, page 433.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held at the Drill Hall, Buckingham Gate, S.W., on April 24 was much the best of the year. Flowering plants were in great variety and beauty, particularly Narcissi and alpine plants. Roses, too, were in evidence from three of the leading growers. Tulips in the cut state, Carnations and Orchids each added their quota to a goodly gathering.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), Messrs. W. J. Bean, J. Green, G. Reuthe, G. Harrow, J. Heal, J. W. Moorman, T. Stevenson, W. Howe, J. F. McLeod, J. Dickson, C. Dixon, Sydney Morris, Charles E. Pearson, Clarence Elliott, H. J. Jones, H. Cowley, J. Hudson, E. H. Jenkins, R. Hooper Pearson, R. W. Wallace, E. F. Hazelton and W. A. Bilney.

Messrs. William Cutbush and Sons, Highgate, N., contributed a nice lot of alpines in flower, including a dozen or so of Saxifraga Faldonside in excellent condition. Androsace carnea was very pretty and bright, while such as Narcissus triandrus albus, Saxifraga Stracheyi and Primula rosea each gave bright patches of colour. Backed by flowering shrubs, the group was most effective. Forced flowering shrubs from the same source included good examples of Lilacs Mme. Lemoine (double white), Michael Buchner (pale lilac) and Marie Legraye (single white). Azaleas and Dielytra spectabilis made a goodly display. Boronia megastigma was highly fragrant.

Messrs. H. B. May and Sons, Limited, contributed Ferns in variety with a central group of Clematis in flower. Of these, C. montana rubens was very charming. Nellie Moser, Mrs. Quilter (white) and Lady Londesborough were others of note.

Messrs. B. R. Cant and Sons, The Old Rose Gardens, Colchester, showed a delightful lot of Roses, the half-dozen stands at the back being most attractive. Of these, Goldfinch (white and gold) was perhaps the most charming, whether in bud or bloom. Silver Moon (large single white), Golden Ophelia, Sallie (flesh white), Joan (cream, with orange base), Hon. Mrs. R. C. Grosvenor, and Captain Cant (red) were among the more telling. Several boxes of cut blooms were most effective.

Messrs. Barr and Sons, Covent Garden, W.C., showed groups of Hepaticas, Saxifraga Haagii, S. Petraschii, the pretty Iris japonica, Tulipa Clusiana in scarlet and white, and other hardy flowers.

Messrs. Allwood Brothers, Hayward's Heath, displayed excellent Carnations, the outstanding novelty being the yellow-ground fancy Rosalind, a handsome flower of fine petal texture. Destiny (cerise, very fine), Brilliant (white-ground fancy with crimson markings), Bishton Wonder, Benora (white fancy) and Salmon Enchantress were all good.

Messrs. Cannell and Sons, Eynsford, Kent, contributed a bright and telling lot of Zonal Pelargoniums, which in the sunlight were most attractive. Some two dozen vases were staged, the best being Firefly, Countess of Radnor (cerise), Lady Warwick, Lady Roscoe (delicate pink), Mrs. Jackson (magenta pink), Louis Chauvin (salmon orange), Mrs. Ewing (light salmon) and Golden Lion.

Mr. Elisha J. Hicks, Twyford, Berks, sent some glorious stands of Roses, rich in colour and variety. Of outstanding merit were Mrs. George Norwood (pink, fragrant), Mrs. Dunlop Best (apricot and salmon), Climbing Hillingdon (richly coloured), Joanna Bridge (apricot and cream) and Princess Mary, the last a feast of crimson scarlet and fragrance. Handsome vases of Rosa Willmottiæ (pink) and R. Hugonis (soft yellow) were also on view.

Mr. G. Reuthe, Keston, Kent, staged a considerable variety of interesting alpines, as Primula Juliæ (very good in colour), Androsace carnea, Rhododendron intricatum, Daphne Blagayana, Sisyrinchium grandiflorum and Tecophylæa cyanocrocus. Primulas were very charming.

Messrs. J. Cheal and Sons, Crawley, showed alpines and shrubs in variety.

Messrs. R. Tucker and Sons, Oxford, had many beautiful alpines, notably Androsace pyrenaica, A. ciliata (a richly coloured form), Primula Juliæ, Saxifraga scardica obtusa, Morisia hypogœa, Ranunculus bilobus (white), Saxifraga Petraschii and Pulmonaria azurea. Primula nivalis was also nicely shown.

A series of Primula hybrids were shown by Mr. Clarence Elliott, also pans of alpines suitable for table decoration.

Messrs. Waterer, Sons and Crisp, Bagshot and Twyford, brought baskets of alpines, as Saxifraga Cherrytrees, S. Rocheliana, S. scardica obtusa, S. marginata and others. Omphalodes cappadocica was also good.

Messrs. Frank Cant and Co., Colchester, showed good vases of Roses Lady Roberts, Mrs. Foley Hobbs, Sunburst, Richmond and Caroline Testout.

Mr. G. W. Miller, Wisbech, had many hardy flowers, Primroses, Grape and Starch Hyacinths, Violas, Daphne Blagayana, with many Mossy and other Saxifragas, S. Ferdinandi-Coburghii being quite good.

Messrs. Stuart Low and Co., Enfield, had good Carnations in vases, White Wonder, Red Ensign, Triumph and Eileen being noted.

NARCISSUS COMMITTEE.

Present: E. A. Bowles, Esq. (chairman), Miss Ellen Willmott, the Rev. J. Jacob, and Messrs. Herbert Smith, George Monro, jun., F. Herbert Chapman, R. W. Wallace, G. Reuthe, J. Duncan Pearson, W. F. M. Copeland and F. Barchard.

Messrs. Dobbie and Co., Edinburgh, showed vases of excellent Tulips, of which Harry Veitch, Mrs. Moon, Velvet King, Europe, Clara Butt, Mr. Farncombe Sanders, and Rev. H. Ewbank were among the more important.

The collection of Narcissi from Messrs. Barr and Sons, Covent Garden, was of superb excellence, the more conspicuous being Ulysses (a big bicolor), Phineas (yellow Jonquil hybrid), Basilia (Giant Leedsii), Myra (Giant Leedsii), Lord French (a glorious yellow trumpet), Vivian Gosnell (white Ajax), Michael (a glorious yellow trumpet—award of merit), Cleopatra (yellow Ajax), and Tityus (a fine bicolor). Queen of the North, Lord Kitchener, Whitewell and Sunrise were among other notable things. A gold medal was deservedly awarded this magnificent group.

ORCHID COMMITTEE.

A beautiful group from Messrs. Armstrong and Brown, Tunbridge Wells, included Odontoglossum Mars (very dark), O. Rex, O. Victory, O. Dreadnought, O. crispum Xanthotes and O. eximillus. Several beautiful Odontiodas, Miltonia Hyeana sandhurstiana and M. Bleuana albescens, a fine pure white with pale brown base, were also shown.

Messrs. Sander and Sons, St. Albans, showed Brasso-Cattleya Digbyano-Warneri, Trichopilia suavis, Odontoglossum loochristiense (yellow with red blotches), together with Odontiodas and others.

In a group from Messrs. Charlesworth and Co., Hayward's Heath, Lælio-Cattleya Serbia var. Perfecta, Sophro-Lælio-Cattleya Meuse (rich colour), Odontoglossum Coronation Fowler's Variety, and Odontoglossum illustrissimum, a finely blotched form, were noted among others.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.*

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 10s. 10d.; Foreign, 13s.*

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

HOW TO SPROUT OATS

THE introduction of the intensive system of poultry-keeping brought to light many innovations of a practical and economical nature. One of these was the sprouting of oats.

Sprouting-Boxes.—The sprouting-boxes must first be dealt with. Any shallow wooden receptacles will do, and it will be necessary to bore holes the bottom to enable the water which ha in applied continuously to the oats during the period of sprouting to run away. Uniformity in the sizes of the sprouting-boxes is perhaps advisable to facilitate matters. A receptacle measuring 12 inches wide, 24 inches long and several inches deep will be large enough to take 2lb. of dry oats. The two ends can be made higher if desired, so that the boxes can be placed on a shelf one above the other without the growth of the green sprouts being interfered with. Again, a handle can be fitted to each box—a batten nailed at each end of the receptacle answering the purpose. If large holes are bored in the bottom to run off the water, perforated zinc should be nailed underneath to prevent the grain from falling out.

Treating the Oats.—In the first place the oats must be perfectly sound and sweet, while they must not be clipped. Many poultry-keepers endeavour to sprout oats, but give up the idea owing to the bad results. The latter I have often traced to the use of *clipped* oats, the poultry-keepers not knowing that in such grain the germ has been removed. Soak the oats in warm water for at least twenty-four hours and, having drained off the water, place them in the sprouting-boxes to a depth of about an inch. Do not place any soil in the receptacles, as this is neither necessary nor desirable. Once in the boxes the oats must be constantly watered with lukewarm water, the latter draining off through the holes in the bottom of each receptacle. The grains, too, must be regularly stirred until sprouting commences, when stirring should cease. Two waterings daily will suffice and a "fine" water-can should be used. An occasional sprinkling of cold water will do good.

Temperature.—The quicker the oats can be sprouted the more valuable they prove from the feeding point of view. The sprouting-boxes should be placed for preference in a greenhouse where the temperature is about 60°. Heat is necessary, the quickness of growth depending upon the same. A warm room or building will be suitable if the temperature is not below 50°. Where a number of boxes are kept at work, the owner will be able to supply his fowls with a constant amount of sprouted oats. In America many poultry-keepers run the sprouting of oats in conjunction with Mushroom culture, which is an excellent idea. The temperature inside the Mushroom-house ensures the rapid sprouting of the oats. Cabinet-sprouters are exceedingly useful and very quickly earn back their cost. A lamp or heater is located at the bottom, while above this are placed numerous shallow sprouting-boxes—one above the other, and fitting into cabinet-like drawers.

Ready for Feeding.—Opinions differ regarding the length the sprouts should attain before they are given to the fowls. Personally, I like to see the green sprouts about 2 inches high, when I consider them "ripe." Some poultry-keepers use the oats when they have sprouted but half an inch, while others allow them to grow up to 3 inches and more. Naturally, the smaller the green sprouts the more tender and succulent they prove, but extremes should be avoided if the best results are desired. Coarse greenery will not be relished by the fowls; yet we must obtain sufficient growth.

Methods of Feeding.—There are many ways in which the sprouted oats can be given. As regards adult fowls, the most popular form is to cut it into squares measuring several inches and to place the same before the fowls for them to separate the roots and green sprouts by scratching. Another plan is to pass the whole through a mincing-machine—roots, grain and greenery—and give it to the birds in a trough. Yet another method is to place the boxes in the run and to allow the fowls to pluck the blades through thin-meshed wire-netting that is placed over the top of each receptacle. The sprouted oats should be given to adult fowls as a separate meal, preferably at midday, and each bird can be supplied with an ounce or more. The quantity will depend upon the amount of other greenstuff provided and whether the birds have free range over grass or are confined.

For Chickens.—Sprouted oats are excellent for young chicks after they are a week old. Only the green sprouts should be given, however, the matted roots at the bottom being given to the adults. The sprouts should be very finely cut up, and while one feed of the same per diem is advisable at first, two meals can be allowed daily after the second week. A good plan where chickens are concerned is to keep cutting the sprouts as they are needed, allowing the grain to continue sprouting. It is surprising the number of cuts that can be obtained in this way. Whether with adults or young poultry stock it is a mistake to give the birds too much at first. They should be gradually accustomed to this new diet, and they will then fully relish it. As the chicks get older they can have roots and grains as well as the greenery.

Advantages.—The sprouting of oats is a system that every poultry-keeper should adopt. Personally, I am much surprised that it is not extensively put into practice here. The American poultry-keeper makes full use of the advantages the sprouting of oats have to offer. With very little trouble a combined grain-and-green dish can be provided and one that is economical. Experiments have proved that 4lb. of dried oats, when sprouted have made a bulk of 18 lb.

DISPATCHING DAY-OLD CHICKENS.]

Scene at Messrs. Adams and Linkie's Romanno Bridge Poultry Farm, West Linton, Scotland. 120 acres of grassland in the Pentland Hills are exclusively used for poultry-farming and over 5,000 birds are mated.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street Strand, W.C.

The Care of the Chicks

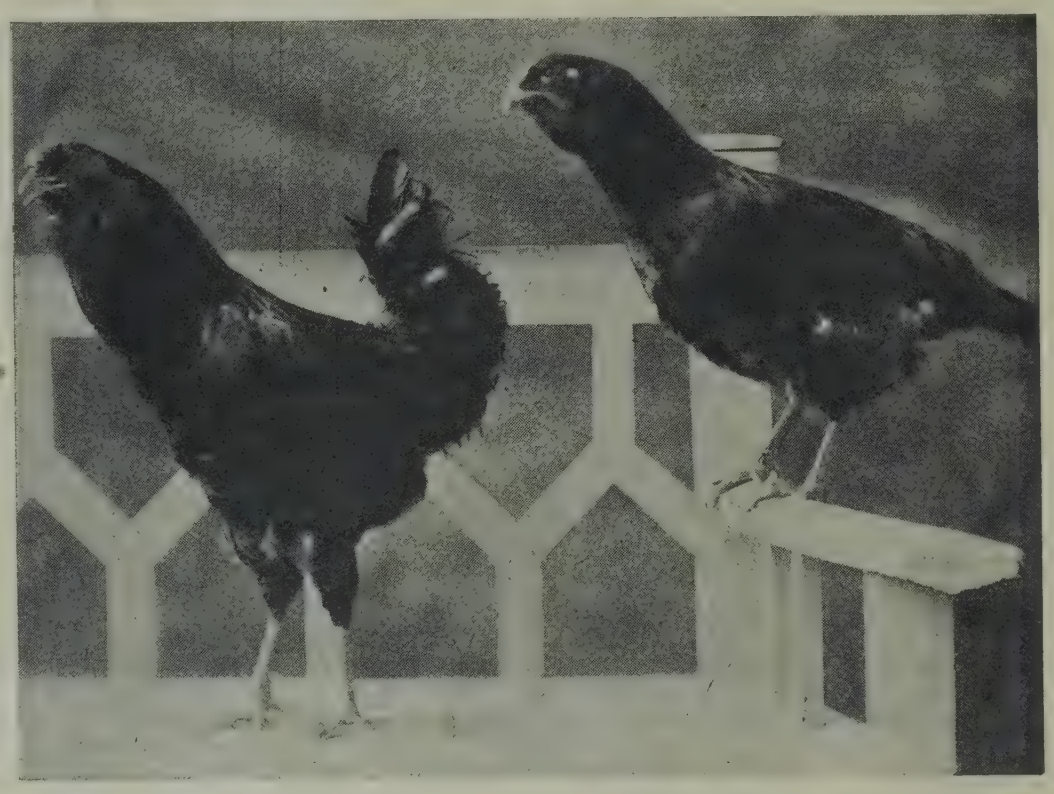
IN this article Mr. W. Powell-Owen continues his interesting and helpful notes on chicken-rearing, treating especially on the management of the foster-mother.

A DEEP coop is beneficial, since the hen can retire to the rear and keep her brood sheltered in inclement weather. A hood, too, can be fitted at the top of the front, so made that it will swing over the roof of the coop when not in use. This arrangement will prevent rain from beating into the coop and making the floor wet and uncomfortable. The coop can be floorless, or a wooden floor can be fitted. In either case I like a nice dry bedding of sifted earth and fine sand mixed, with perhaps a sprinkling of chaff or similar litter. A sliding wooden front will be necessary at night, and a small glass panel should be fixed in the same to admit light. In dark coops the hen is liable to tread on the chicks—chirping to get out among the insect life—in the early morn, and there will then be losses. The coop, too, must be properly ventilated near the top.

The Run.—On poultry-farms the hens are always confined to the coops, but many of my readers will perhaps be able to allow the hen to strut about proudly with her family. If this plan is adopted, keep the mother confined for the first seven days or so until the chicks get strong on the legs and can hop out of the way of their mother's clumsy feet. If cats have to be guarded against, a run can accompany the coop. The sides and one end will be of boards and the top of wire-netting. The run will be floorless and in the top will be fitted a door, through which utensils and food can be passed. The structure will be placed against the front of the coop. There are many excellent designs of coops and runs on the market—both separate and combined. Early in the season when the elements are unfavourable the hen and her brood can be accommodated in a light, dry and well-littered outhouse, shed, stable or barn.

Artificial Rearing.—A few words are now necessary respecting artificial rearing. If the latter is to be successful in every way, three essentials must be allowed for: (1) a good make of foster-mother; (2) chicks from robust parent stock; and (3) common-sense management. Just as there are two types of incubators, so are there two in foster-mothers, viz., hot-water or "tank" and hot-air. There are many designs of rearers, some having two compartments and others three, the former comprising a heated chamber and run, and the latter a heated chamber, a run with wooden floor, and a run with earthen floor, respectively. At the end of each rearer is arranged a trap-door, through which the chicks can pass into the outer grass run on fine days. During inclement weather the little ones are best confined so long as they are encouraged to take exercise in scratching for grain among the litter. Both young and adult fowls are the better for "something to do." The heated chamber, also the wooden floor of the run, should be littered, since the running on bare floors is apt to result in leg-weakness or cramped toes.

For Early Rearing.—For early rearing the foster-mother is a boon. Those who adopt early rearing make full use of the foster-mother, placing the appliance inside an ordinary poultry-house of the open-fronted type. The floor is well bedded down and the chicks are allowed the full run of it, enjoying themselves and thriving in their snug "retreat," no matter what the outer elements are. A barn, loft, stable, or comfortable outhouse will provide suitable accommodation for the foster-mother and chicks, provided there is ample light and the little ones can see to scratch for the grain in the litter. If the floor was dark, a glass panel could be inserted near the bottom of the house to remedy this defect. As the weather becomes milder, outdoor rearing is advisable.



MAHOGANY RUSSIAN ORLOFFS.

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Outdoor Rearing.—Where outdoor rearing is adopted, each foster-mother is provided with a grass enclosure. For a hundred-size appliance I would recommend a run measuring 10 yards square. To erect the run, the corner posts and supports should be hammered into the ground, and the wire-netting—3 feet high—should be passed round, being tied to the stakes. Hooked stakes can be used to fasten the wire-netting to the ground. An enclosure thus arranged can be quickly moved as occasion arises. All young poultry stock benefit by frequent changes of ground, and as the old run gets worn, the netting and stakes can be transferred to the other side of the foster-mother. Fresh ground can thus be provided at a moment's notice.

Avoid Overheating.—Failure in artificial rearing often arises from the placing of too many chicks in the rearer, or through overheating. As regards the question of temperatures, opinions differ. Personally, I favour 90° the first week, 80° the second, 70° the third and 60° for the fourth week. One must, however, use common sense when arranging the temperatures inside the foster-mother, since the owner must be guided by the outer elements. In milder weather the foster-mother might be started at 80°, be run at 75° from the fourth to the seventh day, at 70° for the second week, and so on. Again, in cold weather, if the former plan is being carried out, the temperature might be kept at 70° for the fourth week. At any rate, it is very foolish to "coddle" young chickens, and the weaning must be gradual. Thus, after the chicks are deprived of artificial heat during the daytime, the lamp can be kept alight at night for a short time just to harden off the young birds.

An Eye on the Chicks.—As a sure guide to temperatures one can watch the chicks. The foster-mother should be visited at night, and the movements of the little ones will reveal whether or not the inside temperature is correct. If the chicks crowd round the hover and push each other over, the owner can be sure that the heated chamber is too cold. If, on the other hand, the little ones sit shoulder to shoulder and appear "comfy," all is well; while, should they continually open their beaks for air, the temperature is too high and must be remedied. In ascertaining the temperature inside the foster-mother, the thermometer must be placed 1 inch or 2 inches off the floor. Do not place the thermometer near the open door or yet in the corner furthest from the door—two extremes—but midway between these two points. The quality of the oil used will have an effect on the temperature, for which reason only the best brand should be employed. Attend to the lamp in the daytime to ensure an even flare for the night, and trim the wick by rubbing off the charred portion with a piece of soft paper. The latter plan will ensure a steady and not a "forked" flame.

Timely Preparations.—It is always wise to examine the lamp half an hour after it has been attended to and just before going to bed to see that all is well. If two lamps are employed, so much the better, since they can be used on alternate days, thus allowing ample time for cleaning, &c. The foster-mother must be run for a day or so prior to the chicks being placed therein to make sure of the proper heating. Having taken the chicks from the drying box or chamber of the incubator, place them in the heated compartment of the foster mother and do not disturb them for several hours. When they are visited, tempt them to feed in the run-section by gently guiding them through the entrance or door. After they have been fed, gently drive them into the heated compartment and repeat the plan at each feeding-time.

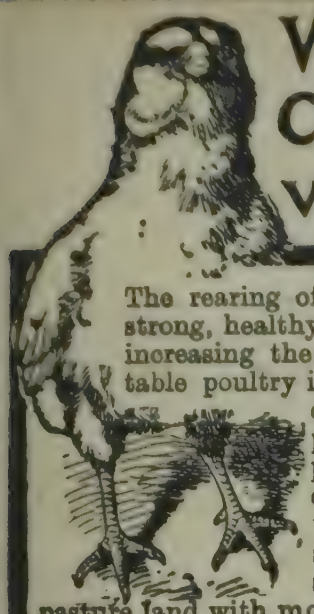

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FIG. 2.

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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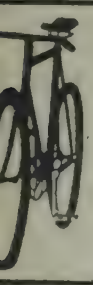

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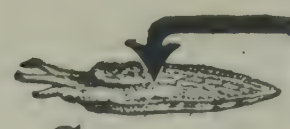

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Mrs. E. Cowdy—Giant maroon, vigorous	**9d**	**1/4**
Melba—Salmon orange self, very large	**9d**	**1/4**
New Miriam Beaver—Deep cream	**9d**	**1/4**
Peace—Charming pink, many double flowers	**1/-**	**1/9**
Rosy Rapture—White ground margin rosy pink	**1/-**	**1/9**
Stanley Crisp—Pure white of great substance	**9d**	**1/4**
The President—Dazzling, orange-scarlet self	**1/-**	**1/9**
The Lady Eveline—Grand rosy mauve	**1/-**	**1/9**
Victory—Brilliant deep salmon red	**1/-**	**1/9**
Warrior—Rich chocolate maroon	**1/-**	**1/9**

GENERAL COLLECTION.

The following are a few selections:—	Per doz.	100
Pink—Hercules	**8d**	**4/6**
Cream—Clara Curtis	**7d**	**4/-**
Cream Pink (Deep)—Margaret Atlee	**8d**	**4/6**
Rose—Rosabelle	**8d**	**4/6**
Salmon—Earl Spencer	**9d**	**5/-**
Crimson—King Edward Spencer	**7d**	**4/-**
Scarlet—Scarlet Emperor	**9d**	**5/-**
Orange—Robert Sydenham	**10d**	**5/6**
Orange Scarlet—Thomas Stevenson	**8d**	**4/6**
Orange Pink—Edrom Beauty	**7d**	**4/-**
Purple—Royal Purple	**1/-**	**7/-**
Maroon—King Manoel	**8d**	**4/6**
Mauve—Bertrand Deal Impd.	**8d**	**4/6**
Blue (Light)—Wedgwood	**7d**	**4/-**
Blue (Dark)—Lord Nelson Spencer	**8d**	**4/6**
Lavender—Lavender Geo. Herbert	**8d**	**4/6**
Carmine—John Ingman	**6d**	**3/6**
Picotee Edged—Evelyn Hemus	**6d**	**3/6**
Bicolor—Mrs. Cuthbertson	**8d**	**4/6**
Cerise (Deep)—Edith Taylor	**8d**	**4/6**
White—King White	**9d**	**5/-**
Lilac—Prince George	**7d**	**4/-**

MIXTURES.

Spencers—Waved	**6d**	**3/6**
Large Flowering	**4d**	**2/4**
The Popular	**3d**	**1/9**
Red, White and Blue	50, **2/-**; 100, **3/6**	

"Collections."—Our selection from General Collection of 70 varieties, 6 plants **each** 12 varieties, **3/3**; 12 ditto, **5/9**; 25 ditto, **10/6.**

Important.—We cannot too strongly emphasize the fact that these plants are **Autumn and Winter Sown** and **Cold Grown.** There is a **vast difference** between such plants and those raised in the **Spring** in **heat.**

CYCLAMEN, "LOW'S GIANT STRAIN."
In 72's White, **4/-** doz. Mixed, **3/6** doz.
Transplanted, „ **2/6** „ „ **2/-** „
SCHIZANTHUS "Excelsior Strain," in 72's, **3/-** doz.
Primulas Malacoides alba, ex boxes, scarce, **3/-** doz.
TERMS.—C.W.O. Please remit extra for postage or rail.

Mail Nurserymen,
BUCKS, IPSWICH.

THE GARDEN.

No. 2372.—Vol. LXXXI.] **NOTES OF THE WEEK** [May 5, 1917.

An important notice has recently been issued by Dr. Keeble, Director of Horticulture, relating to the spraying of Potatoes. Should the coming summer prove to be a wet one, there is certain to be a serious outbreak of disease among Potatoes, for we fear that many diseased tubers are being planted as seed this year. As all gardeners are aware, the spraying of Potatoes is a means of preventing loss from disease, and, in order to put the means of spraying within the reach of allotment holders and gardeners generally, the Director of Horticulture is making arrangements to provide for the spraying of all Potato crops grown by small cultivators. The Food Production Department is ordering from the manufacturers a large supply of the best types of Knapsack Spraying Machines, and is making arrangements for the sending out in packets, ready for making up, of the materials for spraying.

Spraying Demonstrations.—For the benefit of those who have not had experience in the use of the Knapsack Spraying Machine, demonstrations by experts are being arranged in different parts of the country. An illustrated leaflet describing how and when to spray will be ready shortly, and may be had free of cost on application to the Director of the Horticultural Section, Food Production Department, 72, Victoria Street, S.W.1. The price of the Knapsack Spraying Machines which have been selected is £3 each, inclusive of packing and delivery. We feel sure that there will be a very large demand for the machines, and all those who wish to purchase them should send in their applications without delay to the Food Production Department.

Planting Potatoes.—There are many ways of planting Potatoes, some very good and others equally bad. To plant with a dibber on heavy soil is perhaps the worst of all. A very good plan is to take out a trench with a spade or, better still, with a cultivator, as shown in the accompanying illustration. In this case the rows run from north to south and the trenches are left open for a few days to warm in the sun, after which the tubers are placed about 18 inches apart in the rows and lightly covered with soil to a depth of 4 inches.

Medicinal Herb-Growing in Scotland.—Quite a number of ladies in Scotland are taking an active interest in promoting, by precept and example, the cultivation of medicinal herbs in their districts. Among the most active is Lady Elphinstone of Carbery Tower, who has generously had a large number of seedlings of Valerian and Wormwood raised in the gardens at Carbery Tower for distribution among those in the vicinity who will undertake to grow them in their gardens. Advantage is being taken of the opportunity, and a useful phase of the work is the cultivation by the school children of Elphinstone Village of some of the herbs in their school garden.

Condition of the Wheat Crops.—The Board of Agriculture and Fisheries have received the following information from the International Agricultural Institute: "The condition of Wheat in France, Italy, Switzerland and Egypt is reported to be average, and in Great Britain and the United States rather under average; while that of Rye in France, Italy, Switzerland and the United States is average. Barley in France, Italy, Switzerland and Egypt is in average condition; while Oats are average in Italy and the United States, but under average in France and Ireland. The probable yield of winter Wheat in the United States has been estimated at 230,363,000cwt., or 10·7 per cent. below the corresponding production last year. The total production of Wheat in Argentina, Australia and New Zealand in 1916–1917 is now estimated at 121,991,000cwt., and that of Oats at 16,960,000cwt.; while the yield of Maize in Argentina and Australia is estimated at 33,670,000cwt."

PREPARING THE GROUND WITH A CULTIVATOR BEFORE PLANTING POTATOES.

Camellia japonica as an Outdoor Shrub.—It is a pity that more use is not made of Camellia japonica and its many varieties for the outdoor garden, as it is hardier than many people imagine. In addition to giving excellent results in the Southern Counties it grows quite well in the Midlands, and we have known a plant to flower well and produce a few seeds on many occasions during the last thirty-five years in a sheltered position in a West Lancashire garden. In spite of the recent cold period, Camellias outdoors in the neighbourhood of London look perfectly healthy, while several other evergreens have suffered. Moreover, the buds appear to be uninjured, and the usual good display of bloom may be expected. The greatest enemy of the outdoor Camellia is late spring frost, and the expanding blossoms are sometimes injured during early May. When planting, give good, well-drained loamy soil containing peat or leaf-mould.

Forestry and Hygiene.—Professor A. Henry will deliver, under the auspices of the Chadwick Trust, three public lectures at the Royal Society of Arts, Adelphi, London, on May 8, 11 and 14, at 8 p.m. The subject of the lectures will be "Forests, Woods, and Trees in Relation to Hygiene."

Horticultural Club.—The next meeting of the Horticultural Club will be held at the Hotel Windsor, Victoria Street, S.W., on May 8, at 6 p.m., when Mr. J. K. Ramsbottom will deliver a lecture entitled "Investigations in Fusarium Disease of Daffodils," illustrated by a series of lantern slides obtained during the investigations carried out at the Royal Horticultural Society's Gardens at Wisley.

Peter Barr Memorial Cup.—At their meeting on April 24 the Narcissus committee of the Royal Horticultural Society awarded the Peter Barr Memorial Cup to Mr. Walter T. Ware of Inglescombe, Bath. This cup was established as the outcome of a wish of some of the late Mr. Barr's admirers to do something to perpetuate his memory, and a joint committee of the floral and Narcissus committees of the Royal Horticultural Society was appointed to carry out the project. This joint committee placed the cup in the hands of the Royal Horticultural Society to be awarded every year by their Narcissus committee to anyone who, in their opinion, has done good work of some kind on behalf of the flower.

National Rose Society.—In view of the exceptional circumstances now prevailing and the call for National Service, the Council of the National Rose Society have thought it right to cancel their Great Summer Show, which was to have been held at the Royal Botanic Gardens on Friday, July 6. In order, however, that nurserymen may have an opportunity of exhibiting their latest productions, arrangements have been made in conjunction with the Royal Horticultural Society for a special display of new seedling Roses to be held at the Drill Hall, Buckingham Gate, on Tuesday, July 17, and also for a modified autumn meeting to be held in the same hall on Tuesday, September 11.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Bee-Keeping : Making a Start.—With reference to my note on page 138 I have received a letter from Mr. William Channel of Histon saying that he has completely sold out all his available stocks of Dutch bees for this season.—ARTHUR R. GOODWIN.

Potato Substitutes.—At a club of which I am a member, a most excellent substitute for the Potato is served. It takes the form of a small ball of cooked rice, covered with egg and bread-crumb. Various flavourings are used, the changes being rung on Tomato sauce, curry, or finely chopped hard-boiled egg may be added to the rice. On the dish they look just like Potato croquettes, and they are most popular with the lunching and dining members.—F. HERBERT CHAPMAN.

Should Potatoes be Sprayed?—I should very much like to hear your readers' views on this question. I am in charge of a number of temporary allotments in a suburb of Sheffield, and have addressed an enquiry on the spraying to several people round about. Most of them have replied to the effect that to spray Potatoes with Bordeaux mixture on this rough, recently turned land is waste of time, labour and money. They say that there will be no disease, and do not seem to realise that if the disease once really gets started how hard it is to stop it. Bordeaux mixture is the best preventive I know of.—E. T. ELLIS, *Weetwood, Ecclesall, Sheffield.* [Potatoes *are* subject to disease when grown on newly broken land, and there were many instances of this last year. Our correspondent should read the notes on the subject of spraying Potatoes on the preceding page, and then write to the Director of Horticulture for the leaflet describing how and when to spray. Remember that the object of spraying is to prevent rather than to cure the disease.—ED.]

The Royal Horticultural Society's Show of April 24.—I paid one of my now rare visits to my native London Town last week, and among other things, visited the Royal Horticultural Society's show. I made straight for the Daffodils to start with, for they have been among my best-beloved flowers from the days when Messrs. Barr first went to Surbiton and robbed me of one of my favourite field-path walks—from Cockcrow Hill to Claremont. But I think they are decidedly not improving (the "D's," not the "B's," I mean). Many of the newer kinds, especially among the trumpets, seemed rather coarse and clumsy. I should certainly not choose them for indoor decoration, and for naturalising they would be too costly. The Tulips were beautiful, and Mme. Clara Butt still one of the loveliest pink ones. But the flowers which appealed most to me were the Auriculas; I wanted to bring them *all* home with me. I love their quaint old-world colours and combination of soft hues. I hung fondly over them and could scarcely tear myself away. Messrs. May's Ferns nearly made me break the tenth commandment, too. The Roses were lovely and did not look so "forced" as they do sometimes. I overheard a man in khaki saying "Frau Karl Druschki ought to be interned as a German, passing under an English name," a sentiment with which I heartily agreed. It is, moreover, of the tribe of showy, scentless "milliners'" Roses I should like to see less of. I observed another elderly man critically inhaling the perfume of the Roses and commenting on them with the air of a connoisseur of wine, in days of yore, judging the "bouquet" of a glass of port; and, talking of port, the Misses Hopkins had a dear little claret-coloured Saxifrage, which would be charming on a dinner-table set bodily in small silver bowls; but most of the "rock plants" in pots and pans struck me as "not worth the candle" of coddling they seem to require. I believe I could make quite as effective a rock and water garden with a collection of English wild flowers.—ANNE AMATEUR.

Anemone Pulsatilla.—In spite of the terrible winter and spring, Anemone Pulsatilla has flowered at its usual time with me, but this was far from the case with another of the tribe, A. fulgens, which opened its first flowers only this week—some two months later than in an average season. Beautiful as A. Pulsatilla is when growing wild on a chalky down, in my opinion it is far more attractive when well established in a garden. The photograph accompanying this note was taken on April 23, when the plant had twenty fully expanded flowers on it. It is the best form of A. Pulsatilla I have ever seen, being much larger and more floriferous than the type, while the

ANEMONE PULSATILLA IN A READER'S GARDEN.

colour is deeper than usual. No plant can be easier to grow than this Anemone. It requires no coddling and is perfectly happy if given at planting-time a little leaf-soil and mortar grit with a south aspect in full sun. A baking summer or a cold wet winter comes alike to it. By mid-April I can always count on my cheery friend opening its blooms, displaying their rich golden anthers to tell me that spring has come once more.—B., *Weybridge.*

The Daffodil Season.—Writing on April 20, I am reminded by the letters of numerous correspondents, and also by my own observation, of what an abnormally late season this is. Flowers are only just beginning to open, even here in the South. A sprinkling of seedlings are flowering. I do not know how it is that seedlings always open before the commercial types, but such is always the case here. One pretty little flower with Tenby blood in it attracts me. It differs from nearly all other Daffodils, inasmuch as it *looks up* at you. Most other flowers either face horizontally or droop, and a few freakish specimens gaze straight up at the sky, but each flower of this little Tenby hybrid faces upwards at a slightly inclined angle, and this habit renders it a very pretty variety for the border. Those who can spare the time, from national work or otherwise, should make this their year for hybridising. It is *par excellence* a hybridist's year. There are no distractions in the way of shows for one thing. Many a time have brother hybridists complained to me of the incompatability of hybridising and exhibiting at the same time, and it is a well-grounded complaint. This year they can let themselves go with the tweezers and pollen brush. They will get no results for four or five years, but it is worth it.—ORNATUS.

Crocus biflorus var. Weldenii.—The garden historian will not have much that is pleasant to say concerning March, 1917. In this district its mean temperature was only 36·2° Fahr., or 5° below the normal and 1° below the midwinter average, while frost was registered on twenty two nights and snow on thirteen days. Under these circumstances it is not surprising that even the hardiest of the Crocus species in my wind-swept garden were prevented from disclosing their enchanting tints until the warmer days of April. To-day (April 22) Crocus Imperati is still in full beauty—surely a record of lateness that has not been surpassed for many years. It is worthy of record that of all the Crocus species grown here C. biflorus Weldenii stood the bad weather best and made the bravest show. I commenced with a dozen corms some years ago, which have increased into quite a respectable clump, and as (unlike C. biflorus, which is quite sterile) in addition it seeds freely, a stock is quickly worked up. The ground colour is white, streaked and feathered externally with exquisite shades of soft lilac and almost to blue. It is a native of the limestone hills of Dalmatia, where it flowers in January and February. It was introduced by the late Rev. H. Harper-Crewe of Tring, who received it from Major R. F. Burton, who collected it at Trieste. A coloured portrait will be found in the *Botanical Magazine*, t. 6211. My soil is light and warm and contains but little lime, and as I have not added any for this Crocus, I presume that it is not necessary for its well-being.—ARTHUR R. GOODWIN, *Boscombe, Kidderminster.*

Trenching *v.* Double Digging.—I much appreciate Mr. C. Blair's remarks in relation to myself on page 128 of THE GARDEN, and his friendly criticism on the methods I advocate for deep cultivation. I am afraid I have little to add to what has already been stated by me on many occasions in the horticultural Press, except to say that after practising for many years the principles I advise, I am more than ever convinced as to their efficacy. I have yet to see the piece of land which has been properly treated, according to my views, after a short space of time, that does not answer readily to such treatment. As to procuring chalk-lime, surely this must be within the means of most people; and with regard to draining, with little difficulty some means can easily be devised to effect this. My contention is, and always has been, that when once a piece of ground is selected for growing vegetable crops, it is generally with a view to using it for such for a number of years, and the quicker it can be brought into a state of deep fertility the better. To attempt to improve the subsoil buried away from the influence of the weather, the greatest benefactor of all, is, in my opinion, only playing with it, and the fact should not be lost sight of that, though the top soil is placed at the bottom, it will in due course find its way again to the

surface or become mixed with the general body of soil, to the benefit of the whole, as borne out by the statement of Mr. Blair when the garden he referred to was re-trenched. I have before stated that the kitchen garden here, when I first took charge, was pronounced to be unfit for vegetable culture, and the vegetable plot was some two and a half miles away from the rest of the garden. The truth is that the ground here had become sick and worthless owing to lack of deep working, as the depth of soil only amounted to about a spit, resting on a bed of pure clay. One of my first operations was to trench to the depth advised and thus bring the subsoil to the surface. The results of this can now be seen by anyone at any time, and I may add that my experience is precisely the same on other kinds of land, both of a chalky and a sandy nature.—EDWIN BECKETT, V.M.H.

Runner Beans Without Sticks.—Such a row of Runner Beans as was illustrated on page 98 of THE GARDEN is enough to make one's mouth water. It undoubtedly shows the results of good cultivation; but those less favourably situated have in many cases to grow them in a different way. In the first place, the labour and the stimulants are, especially at this time, not always available, while hop-poles, or, in fact, sticks of any kind, are in many places difficult to obtain. When such conditions prevail, it is well to bear in mind that very satisfactory crops of Runner Beans can be grown without sticks of any kind; indeed, it is the method employed by market gardeners, and is also advocated in the pamphlet issued by the Royal Horticultural Society under the title of "Economy in the Garden." If the plants are stopped just as they commence to run, it is surprising what a quantity of Beans are produced. True, they are not such as one meets with at exhibitions, for the very long podded varieties are not well suited for the purpose. The old Scarlet Runner is the best for growing without sticks. When treated in the way above mentioned it continues to fruit over a much longer period than Dwarf Beans.—H. P.

After the Frost.—Though we have lost many treasures, some plants that were to all appearances dead are making brave efforts to recover. Even some of the Lithospermums are showing signs of life beneath their blackened leaves. Large bushes of Menziesia polifolia which were cut back are starting nicely, and it is a pleasure to note that both Hypericum Coris and H. fragilis have survived. The Thymes, notably Thymus ericæfolius and T. micans (recently planted) look very sick, but T. azoricus will recover. Both Romneya Coulteri and Diplacus glutinosus, which had their roots well covered beneath a mound of ashes, are starting from the base, and some Agapanthuses in the open border, protected by the same material, have, to our surprise, also survived. The New Zealand Veronicas are on the hopeless list. Some Cistuses have come safely through, and it is good to note that among them is a fine plant of the charming little C. algarvensis. Escallonias have fared badly, especially E. macrantha, and a well-established Arbutus Unedo still looks very gloomy. Everything is a month late, but at last (April 19) the snow is beginning to go off the hills, and we are enjoying a spell of soft, wash-housy, Welsh weather.—A. T. J., *North Wales*.

Tulipes pluriflores.—The Cluster Tulip in "Dicks' Dictionary" is copied from "Eden," plate 36, only reversed, as all the other figures of flowers are, and in this instance one of the flowers is suppressed in order to get it into the plate. "Eden" is one of Dr. John Hill's books, and the dictionary is in all probability also one of his ventures. In "Eden" it is clearly stated that the Cluster Tulip is that of Clusius' "History of Rare Plants" of 1601, but instead of the bulb at the left hand of the stalk, Hill has engraved an extra flower while suppressing two, making it a five-flowered stem instead of a sextuple one! The very description of the variety is quoted. In the dictionary the notes are much abbreviated, and reference to Clusius and others does not appear.—R. P. BROTHERSTON.

A Crusade Against Sparrows.—The Minister of Agriculture is anxious about the damage which may be done to our urgency crops this year by sparrows. The matter is of special importance in towns, because of the wide extension of suburban cultivation, and because the swarms of sparrows that ravage our grain crops are mainly town-bred, and migrate to the country when the grain is maturing. Next to the grain, Peas, Beans and young salad crops suffer most from these pests. It is impossible to estimate the damage done to these garden crops; but we know, from actual examination of hundreds of birds (shot over mature grain), that a single sparrow on a single day will eat over forty grains of corn. This is confirmed by similar examinations conducted officially over many parts of the world, and these also agree on the very small percentage (under 5 per cent.) of insect food found in the sparrows examined. On the other hand, we know that sparrows drive away really insect-eating birds, and do not themselves become carnivorous until gorged with vegetarian food. Ignoring the waste of grain in the field, the harm done to grain that is sprouting or milting, and the robberies from shed and threshing floor, quays and stables, &c., and assuming that each acre is ravaged for eight or ten days of a peck a day, valued at 2s., we have to face a possible loss of bread stuffs alone to the tune of £1 per acre. As we should have approximately 8,000,000 acres under grain this year, the possible cost of allowing sparrows to multiply reaches the incredible figure of £8,000,000! The actual money, however, is comparatively a trifle; but we cannot afford this year to lose the food which it represents. It is of vital importance, therefore, that there should be an immediate and simultaneous crusade in town and country against these pests; and experience elsewhere, *e.g.*, in Belgium and New Jersey, suggests that, to be really successful, efforts must be associated with a capitation fee—say, 5s. per 100 birds (or eggs).—L. W. LYDE.

"YE PRODUCT OF YE HOTEST CLIMATES."

An Old French Engraving for a Nurseryman at Weybridge.—The accompanying illustration is a reproduction of an old engraving by F. Vivares, published in October, 1754, and now in the possession of Mr. W. A. Bilney, Weybridge, who has kindly allowed me to reproduce it. Above the picture appears a brief note of explanation: "Knoledge and Labour (assisted by Four Elements) presenting the Gardener with A Cornucopia of Fruits which are ye product of ye Hotest Climates." The picture was used to advertise the nursery produce of one Henry Scott, gardener at Weybridge, and beneath the picture appears the following inscription, in English on one side with a corresponding translation in French on the other side:

"Pine Apples, raised and sold by Henry Scott Gardener, at Weybridge, in Surrey.

"*Where Persons may be supplied with ripe Fruit during their Season, and Plants of all Sizes are Sold at the Lowest Price.*

"*And as the Chertsey Coach goes every day from thence to London, so ripe Fruit may be easily sent by that Conveyance and Plants may be safely sent by the Weybridge boats, to London, twice a Week.*"

The reference to the conveyance of plants to London by the Weybridge boats is interesting, particularly to those who know the lower reaches of the Thames to-day, and we can picture the boats in olden days being sailed or slowly towed on their journey to London. If the Chertsey coach were still running daily to Town, it might with advantage be used for the conveyance of ripe fruit.

"*At the Same Place are Sold Garden-Tools, Seeds, Mats, Fruit Trees, Flowering-Shrubs, and Green House Plants.*

"*He also undertakes the Building of Green houses, Stoves, and Fire-Walls, and Performs any sort of Work in Gardens.*

"*Letters directed to him will be punctually answered, & upon notice he will attend on Gentlemen, either in Town or Country. He has cut ripe Pine Apples every Week for 15 Months Pass'd, & shall cut untill ye Latter end of Octor.*"

The open book on the left of the engraving is "Miller's Dictionary of Gardening."—H. C.

TRANSPLANTING SEEDLINGS RAISED IN A COLD FRAME

IN the issue dated April 14, page 125, advice on the sowing of such vegetables as Cabbage, Brussels Sprouts and Lettuce was given, and the promise made that the transplantation of the seedlings would be dealt with in due course. As these have now reached the stage when this work is necessary, a few hints on the best way to do it will be of service to the beginner. In the issue mentioned above, the drainage of the seed-boxes was dealt with fully, a sectional illustration of a box properly drained being shown. Thorough drainage is equally as necessary for the seedlings when they are transplanted, and for this reason the boxes or pans used for the purpose ought to be 3 inches or 4 inches deep, and each should have a number of good-sized holes in the bottom. Over these broken pots, or "crocks" as the gardener terms them, should be placed, concave side downwards, next a layer of rough soil and, finally, the sifted material, which must be made firm. All boxes or pans must be quite clean.

The Best Soil.—Although amateurs often have but little choice in the selection of soil for their seedlings, every endeavour should be made to get it as good and sweet as possible. A mixture that will suit most kinds of half-hardy annuals is composed of decayed turfy loam two parts, leaf-soil or Cocoanut fibre refuse half a part, well-decayed, rather dry manure half a part, and coarse sand half a part. Failing the decayed manure, use a rather smaller proportion of Hop Manure. All the ingredients should be well mixed and passed through a sieve with a 1-inch mesh, retaining the coarse portion for placing over the crocks as advised above. Avoid filling the boxes or pans too full; when made firm the soil ought not to come within half an inch of the edge of the box.

Lifting the Seedlings.—Having prepared the receptacles, our next duty is to give attention to the seedlings. The soil in which these are growing should be well watered an hour or two previous to the transplanting or pricking off, as they lift better and do not suffer so much as when the soil is on the dry side. In the April 14 issue the necessity for thin sowing was emphasised, and, for the purpose of bringing this home forcibly, one half of the box shown in Fig. 1, *i.e.*, the left-hand side, was sown thickly, and the other half thinly. It will be readily seen how crowded the seedlings are on the one hand and how sturdy on the other. In Fig. 2 some of the sturdy seedlings from the thinly sown half of the box are shown

1.—SEEDLINGS BEFORE TRANSPLANTING.
On the left they were sown too thickly.

2.—LIFTED WITH A LABEL.
Note clusters of roots to each seedling. The pointed stick on the left is used for transplanting.

ordinary wooden label, as shown in Fig. 2. If this is thrust well under a cluster of seedlings, they can be lifted out bodily, as depicted in the centre of Fig. 2. This avoids injuring the roots, and the individual seedlings as shown can be taken out with practically all their fibrous roots intact—a not inconsiderable item in the successful cultivation of Lettuces, Brussels Sprouts, early Cabbages and similar vegetables.

Distance to Transplant.—This may vary somewhat, according to the space at the disposal of the cultivator. If I had unlimited room I would place the seedlings 3 inches apart each way; but at this season cultivators, and especially beginners, have none too much room under glass, and consequently 2 inches must suffice. The actual separately. To lift the seedlings in readiness for transplanting, there is nothing better than an replanting should be done with the blunt-pointed dibber shown in Fig. 2. This is thrust into the soil and withdrawn, the roots of the seedling dropped into the hole, and the dibber again pressed in beside it, but so that some soil is between the roots and the dibber. This soil is gently squeezed to the roots, so that the latter are made quite firm. Fig. 3 shows a box of seedlings ready for the frame.

Subsequent Treatment of the Seedlings.—As soon as a box is planted it should be labelled, given a light overhead watering with a rosed can and stood in a cold frame. This should be kept almost closed for three or four days and the seedlings shaded from bright sunshine. By that time they would have made new roots, and from then onwards more air can be given, so that sturdy, well-grown, if rather late plants will be available for planting outside.

Planting Out.—It is well to plant with a trowel and to use a mixture of sharp sand and leaf-soil around the roots of each seedling. If the seedlings have been grown in a compost containing flaky leaf-soil, there is less risk of injury to the roots when planting out. Press the soil well around the roots with the handle of the trowel, and make certain that delicate seedlings, such, for example, as frame-grown Lettuce, are well shaded. It is a good plan to invert a flower-pot over each seedling for a day or so in bright weather. P. H.

3.—SEEDLINGS TRANSPLANTED SEPARATELY.
Grown in a cool frame preparatory to planting out.

KITCHEN CROPS IN A SURREY GARDEN

By Mrs. C. W. Earle.

TOMATOES and Ridge Cucumbers are both worth growing if brought on sufficiently early in hotbeds to ripen outside in the three warm months. Previous to the war it was cheaper to buy them. Vegetable Marrows, to my mind, are only worth eating if gathered about the size of large Lemons and cooked whole. For those who love to bring into their winter rooms the colour and sunshine of summer, the small Italian Gourds are, I think, well worth the care they require. The drawback was that in most summers they did not ripen sufficiently to keep, and rotted in the winter. I add a recipe that was given me, and which preserves the decorative Gourds perfectly, with the colour as fresh as if just gathered:

Dry the fruits with a cloth, and then pour over them, or let them stand in it for three or four seconds, a varnish made by dissolving gum mastic in methylated ether in the proportion of half an ounce of the mastic to three fluid ounces of ether. After doing this, hang or lay out the fruits to dry. Pour off the mixture and use it again for other Gourds. It should be remembered that the ether is very volatile and also inflammable. The supply of these materials from an ordinary chemist last autumn cost 8s., but from the Army and Navy Stores 2s. 10d. So far the Gourds have been perfectly preserved, with the colour as bright and fresh as if they had just been gathered.

In the prosperous years gone by and with the revival of the fashion of gardening, THE GARDEN had beautiful coloured pictures of flowers and fruits. All of these I kept and made screens with them and Dutch flower pictures, cutting them up and arranging them on white or brown paper pasted on to Bristol boards. Several new hardy fruits were depicted and recommended, but in my limited experience they have spread very little and are not to be seen in gardens. The Loganberry has beautiful large red fruits; the new Hybrid Berry Low Junior has large fruits like Blackberries; and another one, called Laxtonberry, has red fruits. I have always grown the wild Blackberry in the garden, also the cut-leaved one, which I believe is called American. The fruits are rather larger than those of our wild Blackberry, but have not as much flavour. For those who live in the neighbourhood of large towns, this moderate cultivation is necessary, as the Blackberry picking has so increased during recent years with the appreciation of jam. There is some tradition in France, or used to be forty years ago, against picking or eating *les mures sauvage*, as they call them. I have a plant here which I have never seen illustrated or cultivated anywhere. It was brought out under the foolish name of Strawberry-Raspberry, but has nothing to do with either. I was told its real name was Rubus palmatus. It is hardy, deciduous, and almost a weed from the way it creeps about underground. It has beautiful red fruit in August and September, not very good, but mixes well with cooked windfall Apples, and is worth growing as it is so pretty.

The ripe fruits of Rosa rugosa just before the birds attack them make a very fair jam. I never can understand why the improved kinds of the alpine Strawberry are not more cultivated. They are much more eaten in Paris than the larger kinds, and are a very useful addition to Strawberry jam. The improved red alpine Strawberry is the best. It must be grown from seed every two or three years, as the runners deteriorate. There is another kind called bush alpine Strawberry which makes no runners—rather a comfort, but I do not think it is quite so prolific. Properly cultivated, alpine Strawberries should continue to bear till October. Children love them; they are so easy to pick.

DWARF BEAN RELIANCE.

THE BEST DWARF BEANS FOR SCOTTISH GARDENS

At this time of crisis, when everyone should endeavour to obtain a maximum yield from all food plants, the great importance of growing only varieties that are known to succeed in the locality should receive more than ordinary attention. One of the most economical of garden crops is the Dwarf French or Kidney Bean, when properly grown, for not only will the plants yield a large amount of wholesome and appetising food for present consumption, but any surplus may be preserved for winter use by bottling or by being placed in salt. There is no sense at any time of cultivating unsuitable varieties of anything, while in these days such a practice is almost criminal. I have for many years been experimenting with these Dwarf Beans, and have now satisfied myself that there are very few really reliable sorts. The best of all the varieties I have tested is undoubtedly Sutton's Reliance. For crop, quality and long standing it is far in advance of all others, and were I restricted to only one variety, this would, without reserve, be the one selected. Last season—one of the worst on record—this fine Bean saved the situation. The man who serves the kitchen here came to me one day and remarked: "I wish they [the Beans] had all been Reliance." Next to Reliance a good stock of Canadian Wonder is very desirable, and, anyway, makes an admirable succession to that variety. Ne Plus Ultra is fairly good, giving a heavy crop of good quality, but its great defect is the short time it remains fit for use.

C. Blair.

Preston House Gardens, Linlithgow.

THE USE OF LIME

A GREAT deal has been said and written of late about lime, the sum total of which amounts to the advocacy of this substance being used more widely as a fertiliser for farm and garden crops. Now there are several points of prominent importance to be observed in connection with its application to the soil. The operation needs to be carried out with care. It is all very well for those having no knowledge of a plant's constitution and feeding to come along and say, "Use lime instead of this and instead of that." Advice given in haste is best taken with caution.

To proceed with our subject. Calcium is an element of plant food, and is consumed for strengthening the cell walls. We must—many of us, at any rate—plead guilty to a grave misuse of the term "plant food," which means the whole food as composed of the various elements and compounds, and not one element, as in the case

of calcium. The elements fulfil their proper functions in forming compounds, but each or several cannot take the place of others. It is as futile to think that lime can be used in substitution for potash, phosphoric acid or nitrogen as to suppose that the moon could replace the sun.

Lime is present in most soils in sufficiency to meet the requirements of plants for this element of food. On the other hand, some soils are deficient in lime for this purpose, which is usually indicated by acidity and a failure on the part of plants to make satisfactory growth. Again, a very considerable number of soils need an application as a check to fungoid and insect pests and for the purposes of correcting sourness or soil acidity, rendering available plant food that is in an unavailable state and to assist the mechanical working of the soil. Among fruit trees and bushes lime is invaluable, and leguminous crops, such as Beans and Peas, and plants of the Beet family consume large quantities of it.

The object is to supply soils with lime that need it, and a test is often necessary. Poor soils will not be enriched by it unless applied in conjunction with a good, well-balanced fertiliser. In dealing with sourness due to the presence of stagnant water, the trouble can be obviated by draining, applying the lime subsequently.

No doubt many gardens will benefit, but liming may easily be overdone. Dressings are better given during autumn and early spring in small quantities at frequent intervals rather than in heavy doses at longer intervals. A point to note is that caustic lime must never be allowed to come into contact with germinating seeds, young plants, or the young shoots of Potatoes, as its effect will be to kill or greatly injure them.

L. M. MARSHALL.

VEGETABLE COMPOSTS

FOR some years I have done entirely without stable or farmyard manure, using instead a compost of decayed vegetable matter. The latter consists of garden refuse, weeds, turves, autumn leaves, green Bracken, orchard and lawn mowings, and such like. This is accumulated in a shallow pit, and as the heap grows it is sprinkled occasionally with soot or salt—preferably the latter. When this collection is completed, it is allowed to stand for some weeks and another is started. The older pile is turned over at intervals, and it very soon becomes fit to dig into the soil in preparing the latter for most vegetable crops. This spring I have three of these composts going. The oldest, finished in midwinter, is being used, the second is maturing, and the third growing in size as material collects. [We have lately received from Mr. Edward Lovett, Outram Road, Croydon, a leaflet entitled "In My Half-Acre Garden," in which Mr. Lovett describes a similar system of preparing manure, adopted by him with highly satisfactory results for the past twenty-eight years. The contents of the decomposing pits are rich in nitrogenous matter, and of great value in the kitchen garden.—ED.]

If poultry-manure can be obtained, it is an excellent thing for spreading between the layers of vegetable matter, for it not only adds to the fertilising value of the compost, but it is a more potent factor in accelerating decay than anything I am acquainted with. Theory says that you must keep poultry-manure dry or lose its most vital properties, and theory is right in a sense. But practice proves that poultry-manure, used in the way I have described, will for months contain enough of its nitrogen to render the vegetable compost with which it is incorporated as good as the best stable manure. I have had excellent results from such a mixture, and that after the heap had been standing out in the open all the winter without any covering other than a thin layer of turves or soil over its ridge-shaped top.

The foregoing suggestions should be adopted by the many who are now finding animal manure so difficult to obtain. We are as yet only just beginning to discover that vegetable or natural substances, as differing from animal manures, contain the bulk of what we require in plant food. Necessity is forcing us to look around for substitutes for the old commodities, now becoming rarer year by year, and that they exist in plenty will not be denied. For generations the heathen Chinee has produced a manure equal to any product of the stable by saturating green and other vegetable refuse with household (bedroom) slops. We are getting back to these first principles of cultivation, and shall not be the losers for having to adopt them and depend on them. A. T. JOHNSON.

AT 100, CHEYNE WALK, CHELSEA: POOL AND STATUES.

A TOWN GARDEN

THE designing of a town garden is an interesting problem. It does not demand the application of very different principles to that of a country garden except in so far as architectural elements may be more consciously displayed. The garden at 100, Cheyne Walk, Chelsea, the residence of the late Sir Hugh Lane, is a good example of what may be done in a limited space. The garden proper is divided from the paved space at the back of the house by a simple colonnade of stone. Fortunately, there existed two fine trees, one a Mulberry of noble growth, and these make brave features. A sense of length is given to the garden by the wide parallel stone paths, the middle one of which is interrupted by a round pool. At the far end the old, uninteresting wall has been transformed by the building of two niches, which shelter statues in the classical manner. A practical point in the design of this garden is the provision of a narrow flagged path running up the east side, which gives access to the flower-beds on either side. The whole scheme is simple and unlaboured. Too often the makers of town gardens try to make up for the absence of a fine show of plants by an excess of sculpture which raises visions of a monumental mason's yard. Mr. Lutyens has shown a wise restraint, and the garden has a refined classical flavour without being stiff. When the borders are furnished at their proper seasons with such things as Arabis, spreading its bloom and leafage over the paving, and later with Carnations that will bring their brilliant array of colour, the garden will be complete. Carnations in particular are kindly to the town gardener and in nowise turn against a soil that builders of many generations have salted with brick rubbish. Indeed, the lime of old mortar is often a beneficent aid.

GOOD PEAS FOR POOR OR SHALLOW SOILS

FEW vegetables give better returns for any little extra attention bestowed either upon the ground previous to sowing the seed or after the little plants commence their upward journey than the Pea. But special treatment of the soil or frequent attention after sowing is apparently quite beyond the possibilities of most of us this season, and many who have or are about to sow their rows of Peas will have to leave all future attention to others who, although fully appreciating the crop when grown, take but little interest in the rows until the podding stage is reached. Where these conditions are likely to exist, those readers who intend risking a few rows of Peas upon newly broken up ground, or in gardens which even in the happier days were never properly treated with manure, and which this season will get none at all, should make the best of existing conditions by doing all in their power to ensure at least a profitable return for what to most will be a considerable outlay upon seed. A glance at any up-to-date seed list will show the names of many varieties, the height of these varying from 1 foot to 6 feet; and good as the majority of these undoubtedly are when given suitable conditions, it should be obvious, even to the novice, that if grown upon poor or shallow soil the crop from whichever is sown is not likely to be all he would wish for. But something may be done towards ensuring very fair, if not heavy, crops by paying due attention to the selection of the variety.

To show how necessary this really is, it must be borne in mind that not many of the very dwarf growing varieties are noted for the heavy crops of well-filled pods they produce, early maturity being the chief, if not the only recommendation of some of the older varieties, and to sow such as these upon hungry soils without manure invariably ends disastrously; yet, to go to the other extreme and sow only the very tall varieties in the hope of getting at least half a crop would be equally foolish, for what little goodness the soil contained would be exhausted by the roots before the haulm had reached its full height, and even supposing this was attained, a very brief spell of drought just as the flowering stage was reached would result in mildew, or a burnt-up haulm, and few, if any, Peas in what few pods did form. Thus it will be seen that the man who expects his plot to be profitable without manuring the ground must give both the very dwarf growers and the giants a wide berth when ordering the seed.

Those readers who are in this unhappy plight should find the following list of varieties interesting, these being selected from a trial made in this garden a few years ago, when circumstances permitted me growing a length, 6 yards long, of over thirty varieties, all being sown on the same date upon soil of the poorest possible nature which, for two years or more, had not been manured. This trial proved to be one of the most interesting of my experience, neither clear water, liquid manure nor a mulch of any kind being given, though the summer was exceptionally dry. It will be further interesting to town gardeners and others who live where sticks are costly to note that the height of either of the varieties mentioned rarely exceeds 4 feet, and for these ordinary Pea boughs will not be required.

Varieties.—Essex Star, Duke of York, Triumph, Senator, Rentpayer, Eureka, Royal Salute, Glory of Devon, Dr. Maclean, Knight's Everbearing, Autocrat and Late Queen. The last two, together with Eureka and Everbearing, retained the green colour both of pods and foliage over a very long period.

F. R. CASTLE.

WEEDS AND THEIR DESTRUCTION

THE destruction of weeds at an early stage of growth is of advantage in many ways. I shall recapitulate only a few of these. First of all, it saves labour to an extent of which the inexperienced have no conception. Some gardeners, who ought to know better, are always in a muddle just because they allow weeds to obtain a footing, their reason being laudable enough, if true, which is that time cannot be spared from apparently more pressing work to hoe ground which might well be left unhoed till a more convenient season. But no work being more pressing than the hoeing of surfaces which are producing seedling weeds, their reasoning is void. So impressed am I with the necessity of frequent hoeing, and early hoeing as well, that all ground that can be hoed is manipulated in April or early May. The Potato quarter, for instance, are all hoed in advance of the appearance of the haulm above ground. This one item in itself forms a great saving of labour because of the facility with which the ground is hoed. It has the further value of breaking the slightly baked surface layer of soil, and to that extent benefiting the crop, which is a second reason for frequent hoeing. Later the Dutch hoe may be set aside for the ordinary draw hoe, which in the hands of an expert workman cultivates the ground several inches in depth and to an equal depth. Where, however, weeds are rampant, a draw hoe or, better still, a swan-neck hoe cannot be used to advantage. It seems like advancing a heresy to remark that the manipulation of either type of hoe, though easy to one trained to their best use, is rather difficult to an ordinary workman and to the amateur and the allotment holder. It is amusing to see the doubled back and the short strokes of the incompetent compared with the long sweeps and the upright attitude of the adept, whose work is of a superior quality, too.

A common means of a garden becoming full of weeds is the due to seeding, and many of the weeds that infest garden soil are of a kind that produce seeds without going through the whole process of growth and maturity on the plants. Groundsel is the commonest example of this kind of weed, but all Composite flowers exhibit a similar peculiar reproductive activity, which is the power to produce seeds of vital energy though the plant be uprooted and the seeds still very immature. The plants, moreover, are difficult to kill. Of plants of Coltsfoot uprooted last autumn three were left unnoticed lying on the surface till I saw the yellow discs shining in the sun the other day. If left, these would have given a large crop of this abominable, if pretty, weed; and it is not singular.

R. P. BROTHERSTON.

THE SCREEN AT 100, CHEYNE WALK

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Sowing Seeds.—Very often during the month of May we get a spell of dry weather; this, with hot sun and parching wind, renders the germination of small seeds a slow and unsatisfactory process, except under special circumstances. In the case of Lettuce and seeds of the Brassica family, for instance, much the best plan to ensure good results is to water the soil overnight before sowing the seed; and in the case of seed-beds, cover the site with mats or green boughs until the seedlings show through the soil. In this way a full germination of the seed is assured and the plants make greater progress under the moist, cool conditions.

Runner Beans.—If these are sown in boxes about this period of the month and placed in gentle heat, harden them off in a cold frame directly they show through the soil and plant them out later on.

Cabbages.—Continue to plant out those raised from seed sown in March in a cold frame after fully exposing them. The more the hoe is kept moving the soil about the plants, the less will slugs trouble them.

Vegetable Marrows.—Where plants are growing in frames for an early supply, keep them well watered, the flowers fertilised and the growth thin; any tendency to overcrowding will cause loss to the crop by the fruit failing to swell. Sow a batch in pots in a cold frame for open-air culture. While many sow in the open where the plants are to grow, the plan of sowing three seeds in a small pot has an advantage, as germination is more certain should the weather be wet and cold.

Cauliflowers.—Plant out from early sowings as the plants are ready, sheltering them from keen winds and frost with evergreen boughs or inverted flower-pots for a short period after planting. Keep the soil about the plants stirred to check slug ravages. Sow seed of such sorts as Autumn Giant and Mammoth in frames, and plant out as soon as the plants are ready to handle.

Peas.—Transplant seedlings in single rows in boxes as they become ready, allowing at least 3 inches between the plants. Sow approved varieties in the open for succession.

Vegetables Under Glass.

Tomatoes.—Make sowings for succession, growing the plants sturdily near to the glass in a temperature not above 60°. Plants swelling their fruit should be assisted with weak liquid manure or a sprinkling of Clay's Fertilizer on the surface.

French Beans.—Sow a batch of Canadian Wonder for growing in cold frames to give an early supply. Give ample space for free development, as loss in the crop is sure to result from overcrowding.

Carrots in frames should be thinned early to avoid weak growth. Sow Short Horn for succession to pull in quite a young state.

Cauliflowers in cold frames forming hearts should be fully exposed to give crispness to the heads.

Mushrooms.—Make up the last bed for an indoor crop. Well soak with tepid water the beds that have given a full first crop. Sprinkle salt over the surface previous to watering.

The Hardy Fruit Garden.

Strawberries should receive their last hoeing preparatory to flowering and "bedding up," so as to ensure the plants will not be overrun with weeds during the ripening stage. Towards the end of the month any plots of old, almost worn-out plants would be benefited by a thin mulching of horse-manure, this to be covered with the clean straw to prevent contamination and also to shield the fruit from being splashed by the manure during heavy rains.

The Herbaceous Border.

Phloxes.—Mulch with short, half-decayed manure or leaf-mould plants of herbaceous Phloxes, which suffer more, perhaps, than all other subjects in the border from drought in May and June. Phloxes revel where the roots are cool and moist. Reduce stools of such rank-growing subjects as Helianthemums, Heleniums and Michaelmas Daisies, as smaller clumps are more easily managed.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cardoons.—Although not much grown in our Northern gardens, Cardoons are well worth cultivating. They like heavily manured ground, and the general practice is to sow in rows about 3½ feet apart, the seeds in clumps of three 1½ feet apart, thinning out later in the season to one good strong plant. Some favour sowing in trenches, but in retentive soil it is advisable to sow on the level. To have plants of good flavour, Cardoons must be large and well grown. Blanching must be attended to as soon as the plants are ready, which is generally about October.

Parsley.—Sow a good breadth in the open for late summer and autumn supplies, and thin out as soon as ready so that the plants may develop into vigorous specimens.

Vegetable Marrows should again be sown for planting on ridges in the open. Do not put out plants that are stunted and potbound, as these only cause disappointment and delay. Keep the plants moving freely and shelter for a period after planting out, as they are readily blighted by the least touch of late frost.

Cabbages.—Continue the planting of early varieties, Flower of Spring and Ellam's Early being general favourites for this purpose. Plant closely in the rows, as both are of a dwarf nature. Economy of space should always be studied where possible without unduly crowding the plants.

Kohl-Rabi.—The bulbous roots of this in a young state are highly esteemed as a vegetable. Sow now and transplant early in July in the same manner as Cabbage. They are specially valuable in a dry season, when Turnips are inclined to be fibrous and bitter, as they make a fine substitute for these.

Peas.—Sow second-earlies and see to the staking of former sowings. Always attend to this in good time, as the work is then much easier done and early staking is also an advantage to the plants. If mice or birds are troublesome, dust the rows with soot as the plants show through the ground.

Plants Under Glass.

Shading Houses.—Where blinds are not approved of, the glass of plant houses should now be obscured with some suitable shading. Seedsmen are able to supply numerous useful preparations for this purpose. Palm houses should be more densely shaded than ordinary plant houses.

Eucalypti.—Where these were raised from seed last summer they will now need a shift into larger pots. Of vigorous growth, we find them most useful for conservatory decoration, also for dot plants in the flower garden.

Malmaison Carnations.—Plants in 5-inch pots may now be advanced and kept growing freely. Stir the surface soil of older plants with a pointed stick and give them a pinch of Carnation manure. Tie in all flowering shoots and vaporise occasionally so that aphis and other insect pests may be kept in check, as only by keeping the plants clean and giving generous treatment can choice blooms be looked for.

Azalea indica.—Having finished flowering, plants of these should be repotted and growth encouraged. Pot in a compost of sandy peat and loam, spray overhead for a few days, and, after root action commences, transfer to a cold pit for the summer.

Bush Chrysanthemums will now be growing freely, so should be pinched back in order that nice bushy specimens may be obtained. Give an occasional spraying with Abol Insecticide to keep down the leaf-mining maggot. We have found it most effective in warding off this pest.

Bedding Plants in frames should receive careful attention just now. Avoid overcrowding, and see that watering is not neglected. Keep moving the hardier sorts into the open, and thus relieve the frames for other subjects. Be ready with covering material in case of late frosts.

Coodham, Kilmarnock. JAMES MCGRAN.

BRUSSELS CHICORY OR WITLOOF

BY HENRY VENDELMANS.

CHICORY, which belongs to the Composite family, is generally cultivated for its roots. The common variety is grown in the garden for kitchen use, while another variety is produced on a large scale for manufacturing purposes, being transformed by burning into the familiar substance which often forms the principal ingredient of coffee. The Brussels Chicory or Witloof, however, which must not be confused with Endive, is not grown for its root, but for the "chicon," or top, which is produced. This "chicon" is without question the finest of all winter salads, as well as being an excellent vegetable for cooking purposes. It is distinguished in the first capacity by its delicate crispness, and in both by its delicious flavour. The finest is produced in the neighbourhood of Brussels, but it may be grown satisfactorily in any soil, from light sand to a loamy clay; indeed, splendid results are obtained in sandy soil. The success of the crop depends entirely on the way it is managed. There are two stages in growing Witloof: (1) Growing the roots, (2) growing the tops.

The Chicon.

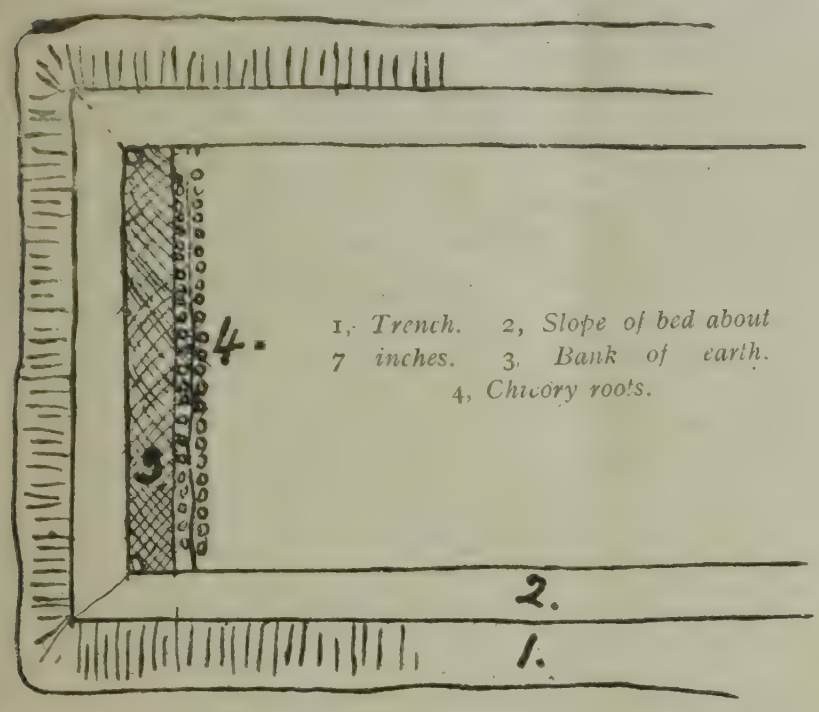
1. Growing the Roots.—The chief point to be observed is that the soil should contain sufficient humus to ensure retention of moisture and permeability. It should be dug and manured to a depth of from 14 inches to 18 inches, and the subsoil must be permeable. For the actual crop the first essential is the right variety of seed. Other varieties have a similar seed, but the ordinary kind will not give satisfactory results. To get the right kind it is necessary to deal with a reliable seedsman.

Chicory is sown in the open after about May 15. At this time the formation of flower-heads, which spoil the plant for culinary purposes, is avoided. When it has attained about the thickness of the little finger, it is planted out in rows about 10 inches apart, allowing 6 inches between the plants. If too much leaf is formed, the tops may be cut off so as to prevent an excess of evaporation. As the ultimate top growth is the edible part of this crop, extra long roots are not to be encouraged. Indeed, they may be shortened if too large, though experience has shown that they should not be too much reduced, because one must bear in mind that the "chicon," which is produced in winter, grows at the expense of the root. Ground intended for Chicory must be abundantly manured with farmyard manure, and cake must afterwards be added. Superphosphates, basic slag and muriate of potash are also used with advantage at the respective rates of about 3cwt., 3cwt. and 2cwt. per acre, and, if necessary, nitrate of soda also at the rate of about 3cwt. per acre.

Chicory should develop broad leaves on a large crown above a thick root. The thickest roots are the best, providing that the head is sound and the thick part of the root about 8 inches long. If the plants show signs of developing flower-stems towards the end of the season, they can be discouraged by treading down the leaves. The roots must be taken up about the end of October—earlier or later according to the season and to the

time when the Chicory is wanted for the table. The success of the crop greatly depends on the care bestowed upon the subsequent operations.

2. Growing the "Chicon."—Select a dry part of the garden and mark out a space about a yard



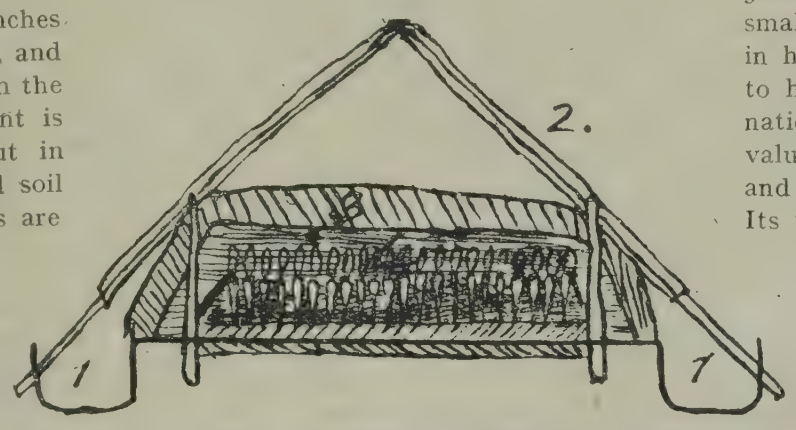
1, *Trench.* 2, *Slope of bed about 7 inches.* 3, *Bank of earth.* 4, *Chicory roots.*

wide and as long as the crop requires. Turn the soil to about half a spade's depth and rake the surface so as to get it perfectly smooth. Trim all the Chicory roots to equal length. Then start digging a trench about 7 inches away outside the prepared bed, and with the extracted soil make a heaped row at one end of it. Against this bank lay the first row of roots, almost upright, so that the crowns come about to the level of the top of the bank. The row will be about 30 inches long, the roots nearly touching each other, and all the crowns at the same level. Then fill in the spaces between the roots so that each plant is slightly but separately enclosed. Then put in a new row, allowing about an inch of solid soil between the rows, and so on till the plants are exhausted. When all the roots are laid in, the top must be covered with more earth. This must be done very gradually, and the soil must be powdered by rubbing it between the hands with the fingers extended (just as a cook rubs the fat into flour for pastry) so that it is very light. Where screens or twining drums are at hand, the soil may be powdered by their use. Mark the corners of the plot with four stakes so as to make a guide at gathering-time. When finished the plants should be covered with about 7 inches of very fine soil. After a few days a little more may be added if necessary.

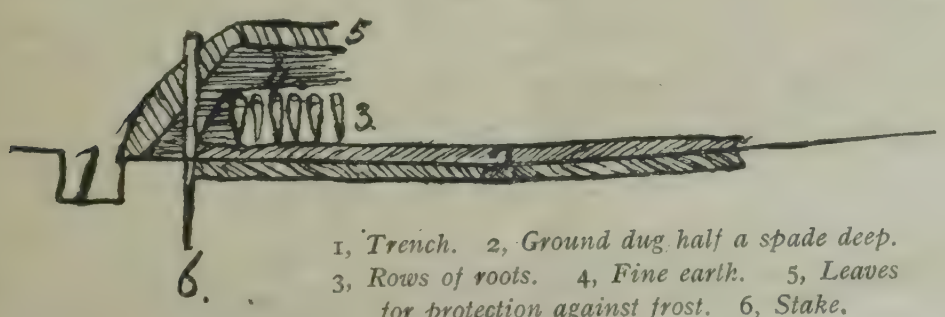
When the work is done, the trench should go all round the bed and will act as a drain for the moisture. As dryness is essential, the bed should further be covered with a pointed roof of wood or thatch so as to turn off rain into the trench. The bed must never get wet. After a time the roots will develop a "chicon," which easily pushes its way through the light earth, and when it has attained a length of 8 inches or 9 inches it can be gathered by breaking it off. For this purpose the earth must be taken away, but it should be put back when the gathering is finished for the remaining plants. The "chicon" really is a thick, well-formed, spindle-shaped bundle of close white leaves with a yellowish top. A supply for from two to four days' consumption can be gathered at one time. If the roots are good they may, after the first gathering, develop more heads, which, although small and not suitable for cooking, will be very much appreciated as salad later on.

In winter-time the top and sides of the bed may be covered with leaves, Pine needles or any other material, so as to protect the soil from frost, which would stop the growth of the "chicons" and perhaps spoil the whole crop. This practice will permit of the gathering of the "chicons" whatever the weather may be.

As has been said, the "chicons" are produced at the expense of the material stored in the roots, therefore the plants do not need manure at this stage of their development. This shows at once the importance of good root growing; but very often, in order to get an early crop, the roots are placed on a bed of fresh horse-manure, which is separated from actual contact with them by a 2-inch layer of earth. By this means the plants are forced and can be gathered much earlier. Sometimes no roof is used above the bed, its place being taken by a layer of manure. This does equally well as long as it prevents water from reaching the heart of the "chicon." No stones or ashes may be used in the covering earth through which the tops have to shoot, as they would cause the "chicons" to be deformed and would force the leaves open. Witloof may be gathered from mid-November till the end of the winter by appropriate management.



1, *Trench.* 2, *Roof.* 3, *Leaves.* 4, "*Chicons*" *pushing through fine earth.*



1, *Trench.* 2, *Ground dug half a spade deep.* 3, *Rows of roots.* 4, *Fine earth.* 5, *Leaves for protection against frost.* 6, *Stake.*

A COLUMN FOR THE CURIOUS

PRONUNCIATION OF MENZIESIA.—Will someone tell me how the word Menziesia (or Menziesii) is pronounced? The Scottish botanist, Menzies, would have called himself "Mingis," or "Mingus" (soft "g"), according to the present pronunciation of the name. Should we be considered pedantic, or merely mad, if we said, for example, Mingisia (Menziesia) polifolia?—J.

CHESTNUTS.—*A propos* the origin of referring to a well worn tale or story as a Chestnut, raised by the Rev. J. Jacob, issue January 20, page 24, the following is an extract from a play called "The Broken Sword":

"XAVIER: I entered the wood of Colloway, when suddenly from the thick bows of a cork tree——

"PABLO: A chestnut, Captain, a chestnut.

"XAVIER: Bah! Booby, I said a cork tree.

"PABLO: A chestnut; I should know as well as you, having heard you tell the tale these twenty-seven times."

—D. H. ZACHARY, *Siddington Rectory, Cirencester.*

IN PRAISE OF POTATOES AND POTATO FLOUR.—If 1917 is not a Potato year it ought to be. It is Potatoes here, Potatoes there, and Potatoes everywhere. They are to be the *deus ex machinâ*. Not to have Potatoes on the brain and in our gardens is to be out of fashion indeed. Shade of John Forster, arise! This good man wrote a small treatise in 1664, of which Weston wrote in his "Tracts": "The public is much obliged to him, from the great benefit the poor of this nation has received from the cultivation of this valuable root: particularly from the scarcity and dearness of corn within these last few years." Its title is well worth recording for the light it throws on bygone times. Here it is in full: "England's happiness increased, or a sure and easie remedy against all succeeding years by a plantation of the roots called Patatoes, whereof (with the addition of wheat flower) excellent good and wholesome bread may be made every year eight or nine months together for half the charge as formerly. Also by the planting of these roots ten thousand men in England and Wales who know not how to live, or what to do to get a maintenance for their families, may of one acre of ground make thirty pounds per annum."—JOSEPH JACOB.

SOWING CUCUMBERS AND MARROWS.—The illustration on page 131, issue April 21, prompts me to ask whether there is not a right and a wrong way to sow seeds of the Cucurbite family. As shown the seeds lie flat and, of course, will be covered as they lie in this position. Experience convinces me that there is only one way to sow this class of seed, viz., in an upright position, with the pointed end downwards. As is well known, the radicle is emitted from the pointed end, while the seed-leaves are unable to free themselves of the outer husk until they appear above the soil. Lying flat, the rootlet must, in order to strike downwards, turn at right angles and then exert itself to pushing the seed husk in its entirety up through the soil in a horizontal position.

When set upright the seed is pushed up very readily, and the seed leaves are therefore better able to free themselves. Some may argue there is nothing in it; but I venture to say that seed of this type so sown germinates and appears more quickly, and there is less liability of rotting off. I believe I am correct in saying that most Cucumber and Melon growers adopt this position of sowing.—T. A. W.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Lælio-Cattleya Serbia var. Perfecta.—The sepals and petals are of a uniform pink shade, the much goffered lip coloured a rich velvet crimson. A very beautiful novelty. From Messrs. Charlesworth and Co., Hayward's Heath.

Narcissus Michael.—A very handsome and refined self yellow Ajax Daffodil which promises well from any point of view, garden or exhibition, though the award was made from the latter standpoint, a proof in itself of high excellence in the variety. It formed the subject of a coloured plate in THE GARDEN of July 30, 1910. Shown by Messrs. Barr and Sons, Covent Garden, W.C.

Androsace ciliata.—Though by no means a novelty, this is one of the choicest of alpine flowers, also one of the brightest coloured. The plant forms hillocks of glabrous green leaves, smooth on both surfaces, and finely ciliated or fringed at the margin. The flowers are of rich carmine red, and crowd the plant on half-inch-high stalks. Native of the Pyrenees. Shown in fine condition by Messrs. R. Tucker and Sons, Oxford.

The foregoing were exhibited before the Royal Horticultural Society on April 24, when the awards were made.

ANSWERS TO CORRESPONDENTS

TREES AND SHRUBS.

TREATMENT FOR A MYRTLE (*W. H. W.*).—Cut the Myrtle back to a point where the branches appear to be alive. If the weather keeps dry syringe the branches several times a day and keep a sharp look-out for new shoots. As soon as new growths are formed and are an inch or so long, give manure water or sulphate of ammonia as you suggest, but do not give stimulants until there is some appearance of new growth.

FRUIT GARDEN.

TOMATO PLANTS FOR INSPECTION (*J. S. R.*).—The Tomatoes are attacked by the damping off fungus. Destroy all those affected and keep the others in a well-ventilated place, giving them a top-dressing of lime. In future steam or bake all soil in which young Tomatoes are to be germinated or grown on.

PEACH TREE DYING BACK (*M. A. J.*).—The shoots sent are insufficient to enable us to say what the Peach is affected with, but we suspect you will find some wounds lower down the stem and branches and the degeneration of the tissues there, producing the disease called "gumming." This causes the obliteration of the vessels and a check to the water supply, so that the shoots above die from lack of water. Gumming is often due to unripened wood and the cultural conditions that cause failure to ripen, and such shoots which show gumming are best cut out and the wounds made painted, as all wounds should be, with lead paint, Stockholm tar, or painters' knotting.

MISCELLANEOUS.

ACONITE AND ADJACENT VEGETABLES (*F. G. F.*).—The Aconite roots will not cause harm to adjacent vegetable roots or tubers. They must not, however, be mixed with vegetables when the latter are dug up, for if that is done an accident might occur.

SOCIETIES

READING GARDENERS' ASSOCIATION.

"THE SOWING OF VEGETABLES IN JULY AND AUGUST."

THIS very important subject, which bears strongly on the national food problem, was brought forward at a recent meeting of the above association by Mr. H. C. Loader, The Gardens, Erlegh Park, Reading, who at the association's meeting on October 23 last staged a remarkable collection of vegetables grown from seed sown less than three months previously. In introducing the subject, Mr. Loader said that it was his intention to show that in a number of instances land might be coaxed or treated in such a way as to produce two useful crops within the twelve months without undue strain, and this could be done by the sowing and planting of vegetables in July and August on land which had already borne crops of such things as early Peas, Potatoes, Cauliflowers, Dwarf Beans, Beet, Carrots, &c. For these crops the ground would have been well tilled and manured during the previous winter and spring, and therefore not much labour would be required to prepare the soil for these late sowings. He emphasised the point that early thinning was a great secret of success in connection with these late crops. The lecturer then dealt with the sorts and varieties of vegetables he had found to prove successful so late in the season, viz., Dwarf Beans, Lettuces, Cabbages, Peas, Carrots, Spinach, Potatoes, Beet, Radishes, Onions and Turnips. An animated discussion of an hour and a quarter's duration showed with what interest the lecture had been followed.

OBITUARY

CAPTAIN HARRY SANDERSON.

THE war has robbed our country of many ardent amateur horticulturists, and we have now to record with deep regret the death in action of Captain Harry Sanderson, R.F.A., of Galashiels. Captain Sanderson, who was forty-six years of age, was a prominent citizen of Galashiels. He was a member of the firm of Messrs. P. and R. Sanderson, tweed manufacturers, in that town, and took an active part in public affairs. He was for some time a member of the Town Council and School Board, and one of the active promoters of the South of Scotland Technical College. He was a member of the Edinburgh Botanical Society and an active horticulturist, his garden being one well known for its interest. He is survived by Mrs. Sanderson and three of a family. We may add that Captain Sanderson enlisted as a private in the Inverness-shire Horse Artillery in August, 1914, soon afterwards receiving a commission in the Royal Field Artillery, and, obtaining promotion rapidly, rose to the rank of captain.

War News from France.—It may interest the many friends of the Vilmorin family to know that Mr. Jean de Vilmorin, the next oldest brother of Mr. Philippe de Vilmorin, has been appointed a Captain in the cavalry regiment wherein he is serving at Salonica. His scarcely nineteen year old cousin, Mr. Pierre de Vilmorin, the youngest son of Mr. Maurice L. de Vilmorin, has been awarded the War Cross for his gallantry in a recent fight. The other members of that well-known family belonging to the Army are, up to the present time, enjoying good health.

**** Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.*

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All Post Free or Carriage Paid Passenger Train.

Strong Plants from Open Field.

Rhubarb, best red, three-year-old roots, 6 for 1/–. Seakale, large roots, 6, 1/3. Sage, Thyme, Mint, 12, 1/–. Parsley, best curled, 20, 1/–. Asparagus, Kidney's Giant, strong three-year-old roots, 6/– 100.

Magnificent Hardy Perennials, Rockery and Spring Flowering Plants, will flower this year; several acres; very cheap; all 1/– doz.

Achillea, double white. Agrostemma, crimson. Alyssum, gold dust. Alpine Pinks. Antirrhinums. Aquilegias. Arabis, double white. Aubrietia, purple. Arabis, variegated. Canterbury Bells, separate colours. Snow in Summer. Chrysanthemum, maximum. Rock Rose. Cornflowers, blue. Cowslips, red. Commelina, blue. Crucianella, pink. Daisy, Monstrosa, large double pink or white. Dianthus, all colours, separate. Doronicum, early yellow. Forget-me-nots, best dwarf blue. Foxgloves, best mixed. French Marguerites, all colours. Gladiolus, very scarce, finest early and late varieties. Geum, scarlet. Hollyhocks. Iceland Poppies. Lily of the Valley. Linum, blue flax. Lupins, assorted. Lychnis, scarlet or pink. Lythrum, rosea. Mimulus, scarlet. Montbretia, clumps. Oriental Poppies. Pansies, best large flowering. Pink, double white or mixed. Polemonium, blue. Polyanthus, best border and gold laced. Pyrethrum, roseum. Ribbon Grass, variegated. Sweet Rocket. Saponaria, pink. Saxifragas, choice assorted. Sedums, various. Sidalcea, pink. Silene Shafta, pink. Stachys, lanata. Sweet Williams, new scarlet, pink, crimson, and Diadem. Tunica Saxifraga, Valerian, crimson or white. Many others.

The following, 6 for 1/–:—Auriculas. Aquilegias, long spurred, new colours, golden-yellow and Clematis flowered. Canterbury Bells, new pink beauty. Gaillardias. Campanulas. Coreopsis. Gypsophila paniculata. Statice Sea Lavender. Alpine Pinks. Many others.

The following, 15 for 1/–:—Canterbury Bells, mixed. Sweet Williams, mixed. Dianthus, mixed. Daisies, red and white. Forget-me-nots, etc.

Geum Mrs. Bradshaw, two-year-old, 3, 1/–.

Splendid Strong Plants from Cold House and Frames.—Calceolaria Tigrina (herbaceous), grand varieties, 4, 10d Dahlia Tubers, good varieties, 6, 1/–. Primula obconica, new rose shades, 4, 10d. Primula japonica, queen of hardy Primulas, 4, 10d. Lovely varieties of Hardy Primulas to flower in succession from now to end of summer, 4, 10d. List free.

Strong Tomato Plants, Carter's Sunrise and Sutton's Perfection, 6, 10d. Sweet Pea Plants, 30, 10d. Pea Plant (eating), best Marrowfat varieties, 30, 1/–. Broad Bean Plants, 30, 1/–. Vegetable Marrow Plants, 6, 1/–. Garlic sets, rooted, 12, 10d. Cucumber Plants, Bedfordshire prize, 6, 1/– Scarlet Runner Bean Plants, 30, 1/–. French Dwarf Bean Plants, 30, 1/–. Golden Butter Bean Plants, 30, 1/–.

Strong Vegetable Plants ready in a few weeks for a whole year's supply.—Early, Mid and Late Broccoli. Cauliflower. Celery. Cabbage. Savoys. Brussels Sprouts, curled. Asparagus, and Cottager's Kale. Lettuce. Beetroot. Sprouting Broccoli. Spinach. Leeks. Onions. Chicory. 1/6 100; 4/– 300.

Strong Seedlings now ready for pricking out.—Celery. Early Cauliflowers. Summer Cabbage. Brussels Sprouts. Savoys. Beetroot. Cos and Cabbage Lettuce. 10d. 100; 2/– 300.

Strong Greenhouse Plants and Choice Hardy Perennials, Rockery, Vegetable Plants, etc. Catalogue free. Everything post free.

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HYDRANGEA ARBORESCENS GRANDIFLORA ALBA (the Snowball Hydrangea).

HYDRANGEA ARBORESCENS GRANDIFLORA ALB

The Snowball Hydrangea. Finest of all Hardy Flowering Shrubs.

As supplied by me to H.R.H. Princess Louise and His Majesty's Board of Public Works. This might be ca the perpetual blooming Hydrangea Paniculata Grandiflora. It is certainly superior to that grand old sort, in it begins blooming in May or June and continues in great profusion until frost, while the old variety only be to bloom in August or September. The flowers of the Snowball Hydrangea are pure snow white, the clus almost as round as a ball and as large as a man's hat. The effect of such a glorious plant on one's lawn or in garden in full bloom all summer and fall cannot easily be described. It is the grandest decorative flowering p for outside ever introduced. In addition to its flowers the foliage is also very beautiful, clean, and healthy. plant is perfectly hardy anywhere out of doors. The bush grows to a considerable size and produces hund of its magnificent clusters of bloom every year. Now reduced to half price, 2 for **1/9**; 4 for **3/-**; 8 for **5/-**; for **7/-**. Immense plants, three and four years old, 2 for **3/-**; 4 for **5/-**; 8 for **9/-**.

JAPANESE TREE PÆONIES

THE GLORY OF JAPAN. Will produce 200 Blossoms on one Tree

Huge blossoms of magnificent lustre and texture, often 10in. to 12in. across; glorious for greenhouse, quite hardy for outdoors. Should be planted at once, as they flower early in spring. There is a refinement n rare and a charm more fascinating about these Tree Pæonies than can be described on paper. **3/-** each; 3 for

THE CLIMBING HYDRANGEA

(SCHIZOPHRAGMA HYDRANGEOIDES.)

A beautiful hardy climber introduced from Japan. It is a handsome, rapid-growing plant, with almost all characteristics of these Hydrangeas, having similar white flowers in huge trusses. It clings with great tena to any tree or building by which it may be planted, and attains a height of 50ft. It blooms about July and rema a long time in flower; it is perfectly hardy. Fine trees of this grand new climber, **2/6** each; 3 for **6/6**. St very limited.

GREAT BARGAINS IN SUPERB FLOWERED ROSES

TEA, AND HYBRID TEA EVER-BLOOMING ROSES.

All beautiful dwarf retarded trees for bedding out in masses now, far superior to ordinary bedding plants, and cheaper.

Magnificent varieties for garden; nearly all Gold Medal winne flower continuously the whole season. The Roses are of gr substance, with remarkably long, handsome buds and shell-peta flowers of most exquisite soft shades and distinct tea-like fragra 3 for **2/6**; 6 for **4/-**; 12 for **7/6**; 25 for **12/6**; 50 for **22** 100 **40**/-.

The New Bedding MARECHAL NIEL

SUPERB BUD. A GEM FOR CUTTING.

A grand new Rose, rich, deep citron yellow, becoming deeper the flowers expand—a colour that does not fade; the blooms large, full, and of perfect form, with high-pointed centre, and deliciously fragrant; the plant is a vigorous, erect grower, and continuous in bloom; one of the finest of the new Ro 3 for **2/6**; 6 for **4/-**; 12 for **7/6**.

GIANT-FLOWERING HYBRID PERPETUAL ROSES

A Mass of Blossom all the Season.

VERY SPECIAL OFFER of Giant-flowering Hybrid Perpet Roses. My selection, drawn from very best varieties where I h a surplus. Will transplant splendidly now, every tree havin mass of fibrous roots, and every one flowered all last seas A magnificent range of colour, from pure white to rich crims These will make any garden a blaze of colour. 6, all differ for **3/-**; 12 for **5/6**; 25 for **10/-**; 50 for **18/6**; Packed free and carriage paid. This is a bargain price so long as stock lasts, as many of these Roses are worth from 1s. to 2s. each

GREAT BARGAINS IN LOVELY CLIMBING ROSES.

A wonderful offer; half price. Having a grand stock of Climb and Rambling Roses, all grand trees, in splendid condition; need for bare walls, ugly places, arches and trellises not cove etc. Plant these freely, they will flower in the wildest profus anywhere and everywhere. 6 for **3/-**; 12 for **5/-**. No more the bargain price when these are cleared.

DAINTY BABY ROSES OR THE NEW TOM THUMB.

Have a bed of these for a change; you will have such a mas blossom you never had before. Superb as a bedding Rose; also be used for Edging or Pots. The sensational new Dwarf RO

MDME. NORBERT LEVAVASSEUR.—As a pot Rose for greenhouse or window it has no equal, for beds and borders it is simply a mass of crimson the whole of the season, producing suc grand, telling effect that once seen it is not readily forgotten; it is very hardy, and will thrive in the poorest soil. Only grows about 1ft. high, and blooms so profusely as to entirely h the foliage. The foliage is of a beautifully deep glossy green, and is never attacked by disease. It flowers in large clusters from June to November. It is always in bloom. This R will prove invaluable for bedding purposes and pot culture. It has already obtained the five following Prizes, viz.:—Paris Exhibition (May)—Large Silver Medal; Paris Exhibit (November)—1st Class Certificate of Merit by the National Horticultural Society of France; London (April)—1st Class Certificate of Merit, R.H.S. of London; London (June)— Class Certificate of Merit, National Rose Society; Orleans (August)—Gold Medal, highest award, with congratulations from the Judges. Now offered by me in four lovely colours—r crimson, snow-white, geranium-red, and Dorothy Perkins pink. All the same price; 4 for **3/-**; 8 for **5/-**; 12 for **7/6**. May be had all one colour or mixed, as desired.

FORGET-ME-NOT (The Jewel).—The colour is a remarkable sky-blue, which shines out in a most conspicuous manner when side by side with other Forget-me-nots, and constitutes the distinct feature of this plant. **1/6** per doz.

ARTEMISIA LACTIFLORA GRANDIFLORA ALBA. —A New and Remarkable Floral Gem of Great Beauty. This remarkably hardy perennial is, without doubt, one of the best new introductions, and may be classed with the showiest of all herbaceous plants. It is very free flowering on the poorest soil, and as the buds unfold they become whiter and whiter, until at last they burst forth into a veritable snowbank of drooping, fleecy bloom of purest white, the panicles often 2ft. to 3ft. long. It is a vigorous perennial, attaining a height of from 3ft. to 4ft. when well established, and is absolutely hardy, is of easy cultivation, and makes a wonderful show, equalled by few plants of any description. When known, it will be planted by thousands. Superb for church decoration. 3 for **1/9**; 6 for **3/-**; 12 for **5/6**.

THE HARDY BLUE GERANIUMS.—This lovely hardy Geranium is rarely seen in beds or borders, yet it is absolutely a hardy perennial, and will give a wealth of glorious large blue flowers for months; increase and improve yearly. 3 for **1/6**; 6 for **2/-**; 12 for **3/6**.

CHRYSANTHEMUM MAXIMUM PEERLESS.—The new giant white hardy marguerite; large, handsome, glossy foliage; the blossoms are enormous, and often measure 5in. across, thus eclipsing all other marguerites. 6 for **1/6**; 12 for **2/6**.

NEW MAMMOTH SWEET WILLIAMS "HOLBORN GLORY."—The finest strain ever seen. The size of the blossoms, delicate and lovely colouring, splendour and brilliancy, is unsurpassed; no garden complete without this lovely strain. 12, **1/9**; 24, **3/-**.

NEW PERENNIAL PHLOXES.—Those who remember the thin-petalled white and the dull-hued purple Perennial Phlox of old-fashioned gardens, can scarcely recognise these new Phloxes as the same flowers. These new varieties are in bloom from June until frost, and the individual florets are twice the size of the old-time Phlox, and the shades of colour the brightest, richest, and clearest. There are no finer or more useful perennials than the Perennial Phloxes, or which will give more complete satisfaction. All are sweet-scented, dwarf in habit, compact in truss, and have large—many of them abnormally large—flowers, some exceeding in size a five-shilling piece. 6 for **2/-**; 12 for **3/6**.

PHYSALIS FRANCHETI.—New Giant Winter Cherry (Chinese Lantern Plants). Beautiful new Physalis from Japan, which has lately become in good demand for decoration and for bedding; entirely hardy. Grand for winter decoration, as this plant carries a perfect load of richly coloured lanterns. 6 for **1/3**; 12 for **2/3**.

THE CRIMSON SPIRÆA.—A glorious new plant. It is most superb for winter and spring decoration of the greenhouse, a well-grown plant being a mass of lovely crimson blossom; but it has a further charm by being perfectly hardy, and can be planted in the open at once. 3 for **1/6**; 6 for **2/9**; 12 for **5/-**.

EVENING PRIMROSE.—A lovely shade of rich s yellow, and deliciously fragrant; the buds expand at du and will perfume the whole surrounding atmosphere sunrise; thrive anywhere. 6 for **1/3**; 12 for **2/-**.

CANDIDUM.—This lovely Lily produces from six thirty lovely waxy-white blossoms, which have the m delicious fragrance. Of all Lilies it is one of the most charmi and sure to bloom freely. 6 for **1/6**; 12 for **2/6**; larger, per doz.

LOVELY HARDY CLIMBERS.

DOUBLE MORNING GLORY (Calystegia).—R hardy perennial climber, one of the most beautful climb plants, covered all through the summer with a mass of f double, pale rose flowers in the shape of double Clema flowers; often 3in. across. Remarkably fast and easy gr ing; excellent for trellis work, for covering walls, veranda balconies, etc.; grows on every soil. Sometimes called R Vine and Californian Rose, it will luxuriate anywhere, sur shade, and when well established, its long vines, wreathed a profusion of large double rose-like blossoms, produce a v telling effect. 3 for **1/6**; 6 for **2/9**; 12 for **5/-**.

POLYGONUM BALDSHUANICUM.—A new ha climber of rapid growth, with stems twining and clinging anything for support. Panicles of showy white flowers in g profusion the whole season. This is a really glorious climb and all will surely want it when better known. **2/6** ea 2 for **4/-**.

NOW IS THE TIME TO PLANT. A mass of blossom certain. Thousands of testimonials from every part of England, and repeat orde for my Vigorous Country Grown Rose Trees.

All above will plant out perfectly now. All packed by an expert, and carriage paid to your door.

Mrs. GARDNER, F.R.H.S., Priory House, STROU

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

MAY is undoubtedly the best "growing" month for chicks, and one of my pointers reads: "The more of May chickens see the better they thrive." Insect and grub life can be found in plenty, and the grass has some "body" in it.

Free Range.—For growing chickens free range during the summer is ideal, and happy are they who can provide suitable environment for the young poultry stock. I have been discussing with Lady —— a system of rearing chickens in a small wood that she has available for them. The following is an extract from her original letter:

"I have about 200 chicks which I am rearing from day-old, and when they are six weeks old I intend putting them out into a small wood near the house, where they can run absolutely free. I am having small houses made to accommodate from thirty to forty each. My difficulty is, how am I to ensure that each lot goes home into its own house every evening, and that the whole lot do not crowd into one or two? The wood is about two acres. As they will find most of their own food, is it necessary to give them grain more than once a day or twice? What quantity per day ought they to have besides what they pick up for themselves? How can I tell the cockerels from the pullets at two months old? I want to begin killing off the cockerels for home consumption as early as possible."

Housing.—As many readers of THE GARDEN may be in a position to adopt my correspondent's system of rearing, the following notes may prove helpful. Many devices could be tried to prevent overcrowding. I would place the houses—facing the south—in line and arrange for a series of pop-holes through which the birds could pass from structure to structure. Wherever long perches are used, fowls will insist on roosting close together, causing overcrowding and subsequently sweating, which often results in colds and roup. As a safeguard, instead of erecting one long perch, a number of short perches should be installed in each house running at right angles to the back. For young stock they would have to be narrow and but a small distance from the ground. The idea is to have just sufficient roosts in each house to take the number of birds accommodated therein, although one need not be too exact. Then when the perches in one structure are occupied, the chickens will pass through the pop-hole into the next house, and the roosts will ultimately be fully utilised without any overcrowding.

Overcrowding.—Young poultry stock will often give trouble by sleeping on the ground until they are many months old, and are encouraged to do so because the corners of the house are inviting. To prevent this the corners of the roosting-place should be filled in until the chickens get accustomed to the perches. No harm will accrue from sleeping on the floor if it is well littered and providing that "corners" are filled in. Apart from the sweating, there is always the possibility of a chicken being crushed if all the birds crowd into a corner of the structure. Early perching should be encouraged, and at first it might be necessary to visit the houses at roosting-time and place the birds on the perches. After a few lessons young poultry stock will quickly get to know what is expected of them. With some chickens there comes the desire to roost at a very early age; with others it comes later. If the young birds are enticed to take to the roosts, the above plan will discourage overcrowding and will see the chickens equally distributed throughout the houses. If difficulty was experienced on account of the chickens showing no desire to roost, one might have to place the houses a little distance apart and for a time see that each structure has its full complement at roosting-time. After a while the birds would sort themselves out.

Sexes.—It would, in my opinion, be much wiser to put out the chicks into the small wood when they were eight weeks old. This is the age when it is customary to move them from the foster-mothers to the cold brooders or cockerel-boxes. Much better results, too, would accrue if the sexes were separately housed. Cockerels are very greedy and devour more than their share of food when both sexes are run together, the pullets suffering in consequence. As the males are required for the table, this separate housing would be an advantage, because the birds could be put on a fattening diet for a week or two before they were desired for the table. Having sorted out the chickens at eight weeks of age, I would recommend quartering the young males at one end of the wood and the females at the other. While free range is ideal for growing stock, it is prone to make cockerels "sinewy" for table purposes, the exercise and running about developing the muscles. This drawback can be guarded against if, during the last week or so prior to killing, the males are placed in wired-in enclosures and kept quiet. In the plan under review the cockerels—whether killed at fourteen or sixteen weeks old—could remain in the same quarters, but a wire-netting enclosure could be attached to each house (if it was only by way of a temporary arrangement) for use during the last week or two. It would be an advantage to keep the males in flocks, as they put on flesh the better when so handled. Although cockerels can be taken up from the ground and be found "ready" for table at fourteen or sixteen weeks without special fattening, a finishing course will yield better results and heavier weights. Much, of course, depends upon the breed that is kept.

Feeding.—As regards the amount of hand-feeding that would be necessary, this must depend upon the quantity of natural food that the young stock pick up. Environment must naturally play an all-important part in deciding to what extent hand-feeding should be adopted. There is one thing, however, I would recommend. It will take the chickens a little time to get settled down to their new quarters, and for a short time hand-feeding should be rather on the liberal side. If two "scratch" meals of grain are given per diem—morning and night—at the start, the birds' crops can be examined at roosting-time directly the rations are gradually reduced. It is best to be guided by the amount of food found in the crops at the end of the day, and many birds should be examined. When the "hand" rations are reduced to one meal of grain per diem, this will best be given at night to ensure the birds going to roost with full crops. One evening as the birds come up to be fed when "whistled" their crops can be felt, and it will be found what amount of natural food is being discovered.

Keen Appetites.—It will not be advisable to give the grain feed in the morning, or the birds will have no encouragement to go grub-hunting. If they are not accustomed to an early morning meal, their one object directly they are released will be to roam in search of natural food. If a morning feed is given, let it be just a light one, and perhaps the best results might follow from a light meal morning and evening. It would keep the appetites keen!

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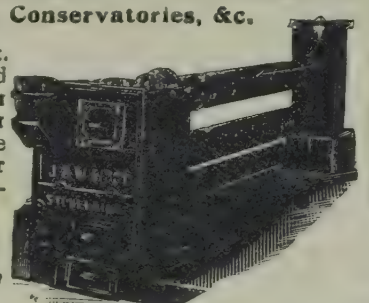

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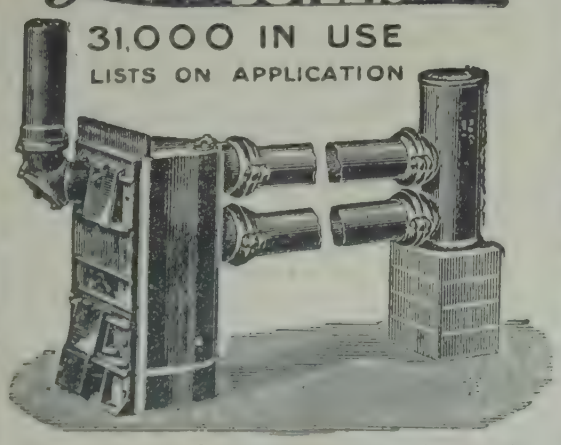

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Lettuces, Cabbage or Cos	2d	1/3
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(**AUTUMN AND WINTER SOWN.** Cold grown).

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Orange Scarlet—Thomas Stevenson	8d	4/6
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Purple—Royal Purple	1/-	7/-
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White—King White	9d	5/-
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12 Extra Fine Varieties for 8/6, Carriage Paid.

DOROTHY HAWES, ruby-red, tinged purple.
PIERROT, deep amber, tipped white.
VICAR OF WASPERTON (New), centre cream, shadin to pink.
COYNESS (New), Tyrian-rose, shading to cream.
ERIN (New), bright orange-red.
A. R. PERRY (New), old rose, tipped gold.
THE IMP, deep maroon, almost black.
SUZANNE CAYEUX, sulphur-white.
VALIANT, brilliant crimson.
MRS. H. RANDLE, bright rose-pink.
FREDERICK WENHAM, fawn-pink, centre salmon.
SCEPTRE (New), orange-yellow, shading to mauve.

Set G.

12 Good Varieties for 4/6, Carriage Paid.

MISS STREDWICK, mauve-pink, shaded yellow.
RENE CAYEUX, bright reddish-scarlet.
HON. MRS. GREVILLE, orange-yellow, suffused salmo
FLORRIE WELLS, rosy-crimson.
BRIGADIER, bright crimson; long petals.
GOLDEN WAVE, rich yellow; incurved.
WHITE ENSIGN, pure white; decorative sort.
STABILITY, a pretty shade of pink; very free.
J. H. JACKSON, intense blackish-maroon.
MRS. USMAR, coppery-orange, suffused coral-pink
LIGHTSHIP, bright yellow; good garden sort.
AMOS PERRY, crimson; one of the best.

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(Snapdragons)

The following Antirrhinums are of the semi-dwarf typ which is the best for bedding.

50 for 2/6; 100 for 4/6.

BRILLIANT, bright carmine-rose, a lovely shade.
CANARY BIRD, pale sulphur-yellow, a deep yellow lip
COTTAGE MAID, coral-pink, white throat.
FAWN, deep fawn, shaded apricot.
FIRELIGHT, bright orange-scarlet.
THE BRIDE, pure white.
NELROSE, deep rose-pink.
GOLDEN QUEEN, soft yellow, large flower.

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These are specially adapted for giving a magnificen display of bloom in the garden during the late summer an early autumn, when other flowers are scarce. If planted i any good garden soil, they require no further attention beyon carefully staking as they grow. We offer only the early flowering varieties.

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ALMIRANTE, red, shaded crimson, tipped gold.
BRONZE NORMANDIE, bronze sport from Normandi
CHARLIE, pure white, very fine.
EXCELSIOR, very fine new early white.
GOLDEN POLLY, golden sport from Polly.
HARRY THORPE, golden-yellow, shaded fawn.
HECTOR, mauve-pink.
EARLY BUTTERCUP, golden-yellow.
MRS. J. FIELDING, rich chestnut-bronze.
MRS. J. MASON, lovely shade of old rose.
YELLOW KING, deep yellow, very good.
LA TAMISE, pure white, shaded rose.

Set G.

12 Very Fine Varieties for 3/6, Carriage Paid.

ETHEL BLADES, chestnut-scarlet, very bright.
BLANCHE NEIGE, purest white.
DOLORES, terra-cotta bronze.
ERNEST BALTET, fiery-red, large flowers.
FRAMFIELD EARLY WHITE, pure white.
H. H. CRANE, bright chestnut, golden centre.
J. BANNISTER, lemon, shaded reddish copper.
LA GARONNE, reddish-salmon, tinted old rose.
PERLE CHATILLONNAISE, cream, shaded rose.
HORACE MARTIN, deep yellow, sport from M. M. Mass
POLLY, splendid deep orange.
PROVENCE, rose, golden centre.

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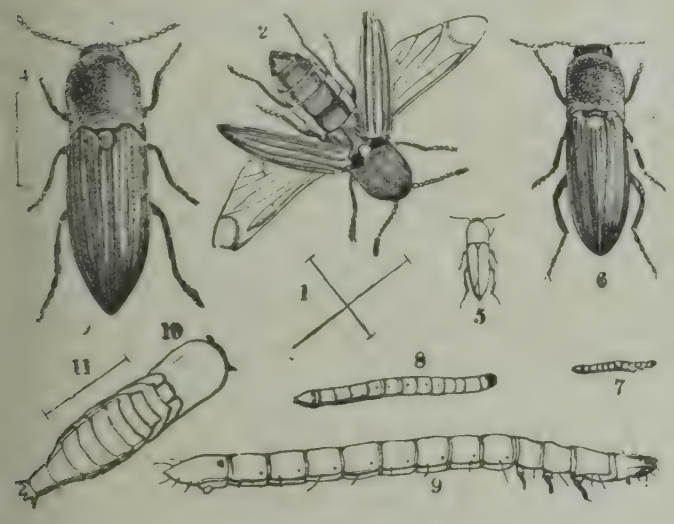
THE GARDEN.

No. 2373.—Vol. LXXXI. MAY 12, 1917.

NOTES OF THE WEEK

MANY readers who have been busy converting waste land into vegetable gardens are now complaining bitterly of the ravages of wireworm. The spell of bright weather during the past fortnight has brought about great activity on the part of this dreaded pest. Wireworm is the larvæ



CLICK BEETLES AND WIREWORMS.

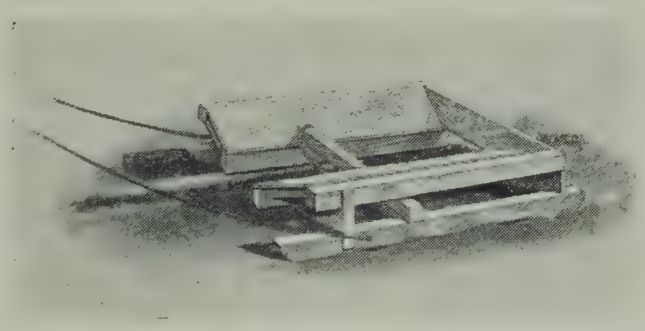
7 and 8, show Wireworms natural size; 9, Wireworm magnified; 10 and 11, Chrysalis.

form of the click beetle and it usually abounds in old pastures. It was thought by many that the hard winter would have settled the wireworm on ground that had been turned over, instead of which we have lately seen this nefarious pest in greater numbers than ever. In many instances seed Potatoes in the ground are already riddled with wireworm, and there is a heavy toll among Peas just as they are appearing through the soil. This pest is unquestionably one of the greatest dangers to our food supply.

How to Eradicate Wireworm.—It is the duty of all to kill every wireworm that is seen. Birds will devour them, but it is not sufficient to leave them to the birds; each pest should be broken in two by the hand. Soot, salt and lime are distasteful to them, and may keep the pest at bay for a time or drive it to another part of the garden. Deep hoeing between the rows will often bring wireworm to the surface, and infested ground should be turned over on every possible occasion. In extreme cases the soil near to the roots of the growing plants should be carefully removed with a hand fork, when the wireworm may be taken away. Traps should also be set for wireworm in the form of sliced Carrots or Potatoes, if they can be spared. The baits should be placed on the end of a stick and covered with a few inches of soil. Lift the baits every few days, take out the wireworms, and then replace the baits in a fresh position. By this simple means this destructive grub will be greatly reduced.

The Turnip Flea.—Another pest which presents great difficulty at this season is the Turnip flea-beetle, commonly known as "fly," an active little creature which springs a good distance when disturbed. It attacks the seedlings directly they appear above the ground. The late Mr. John Wright, V.M.H., in one of his lectures related the following story of the Turnip flea, which may prove helpful to others at this season: "An allotment holder was told to try scaring it away by placing half an inch of petroleum in the bottom of an 8oz. medicine bottle and filling it up to within an inch of the top with strong soapy water. Then if he had a split cork he could jerk enough out on his Turnips when the seedlings were cracking the ground, and afterwards, *at night only*, to save them; but he was to mind and keep the oil and water well mixed by shaking. He did so, and gave his Turnip-bed a nightly sprinkle—all but three rows. The result was far too many plants in the dressed rows, and not one in those not sprinkled. It was a dry season in a chalk district, and the man had the best bed of Turnips round about." It should be noted that the beetles will not interfere with the seedlings after they have formed their rough leaves.

A Trap for Turnip Flea.—The following simple device was designed to deal with the hordes of flea-beetles on the Turnips at Wisley. It consists of a small, light sledge on runners, which is drawn



A TRAP FOR TURNIP FLEA-BEETLES.

over the rows of Turnips. The sloping boards are greased, and as the trap is drawn down each row the beetles leap up and alight on the sticky boards. There they perish.

Queensland Onions.—Brisbane gardeners are excited over some gigantic Onions. They were grown on Mr. N. E. Winthorpe's agricultural farm on the Binjour Plateau, and 18 tons were taken from 2 acres. Ranger Ferguson says he has never seen finer specimens, fifteen of them going to a 28lb. bag. Those on view are each over 2lb. in weight.

Saccharine as a Substitute for Sugar in Jam-Making.—A reader asks if saccharine may be used for jam-making in the place of sugar. We are not sure if the suggestion is practical, on the score of price, but Professor Dunstan of the Imperial Institute, to whom we have referred this question, is of the opinion that jam made with saccharine would have a very much lower food value than jam made in the ordinary way with sugar. Sugar has a high nutritive value, whereas saccharine is not a food. Moreover, the omission of the sugar in jam-making would affect the consistence of the product, and it would probably be necessary in some cases to add some other ingredient in order to obtain the necessary consistence. Fruit jelly made from Apples, or possibly gelatine for the cheaper jams, could perhaps be utilised for the purpose, sufficient saccharine being added in each case to give the desired sweetness. Another point of importance will be the keeping qualities of the product. Saccharine is stated to possess antiseptic properties, but it is asserted to be ineffective as a preservative when used in beverages, and may therefore not succeed with jam. It might therefore be necessary to use some preservative in jam made with saccharine to ensure it keeping in good condition for some time. We have no practical experience on record, and these points would have to be investigated practically before any definite opinion could be expressed as to the possibility of using saccharine successfully in place of sugar for jam-making. We suggest that some experiments on the subject might be arranged at one of the schools of cookery which are devoting attention to war-time cookery.

Sunflowers for Poultry.—The shortage of corn is viewed with great concern by the poultry-keeper and by all consumers of eggs, and the suggestion made in the Poultry pages of this issue to grow Sunflowers for seed is certain to be widely adopted. Sunflower seed, in addition to being a good chicken food, is also highly useful, owing to the oil it contains, for the making of margarine, of which we are faced with a serious shortage. Both in Russia and in Germany the qualities of Sunflower seed for commercial purposes have long been recognised, and in Russia it is even used as human food.

A Sunflower Competition.—In the village of Claygate, Surrey, a novel competition has been started among the cottagers for the largest return of Sunflower seed. A local resident is not only providing the seed and offering very handsome prizes, but will buy from the competitors all the seed not required by them. This excellent example might well be followed in other districts. It would serve the double purpose of beautifying many cottage gardens and at the same time adding to our food resources.

Lawns Near Dwellings.—We are so much accustomed to see lawns of all shapes and sizes forming part of the pleasaunce of all sorts and conditions of human dwellings that we accept nowadays quite as a matter of fact a house rising up, as it were, from a lawn. We can learn much from casual allusions or remarks, such as, for example, we meet with in Sir William Temple's famous essay, "The Gardens of Epicurus" (1685): "The part of your garden next your house (besides the walks that go round it) should be a parterre for flowers, or grass-plots bordered with flowers; or if, according to the newest mode, it be cast all into grass-plots and gravel-walks, the dryness of these should be relieved with fountains, and the plainness of those with statues; otherwise, if large, they have an ill effect upon the eye."

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Tulipes pluriflores.—*Re* the observations in THE GARDEN of April 20 on "Tulipes pluriflores," if your correspondent will grow Tulipa saxatilis in beds in the open—not three in a small pot as I have seen recommended in your pages—he will have no difficulty in rearing many-flowered Tulips. My plants are beyond reproach, as they are the descendants of the original bulbs sent to Mr. Peter Barr by the discoverer.—A CONSTANT READER.

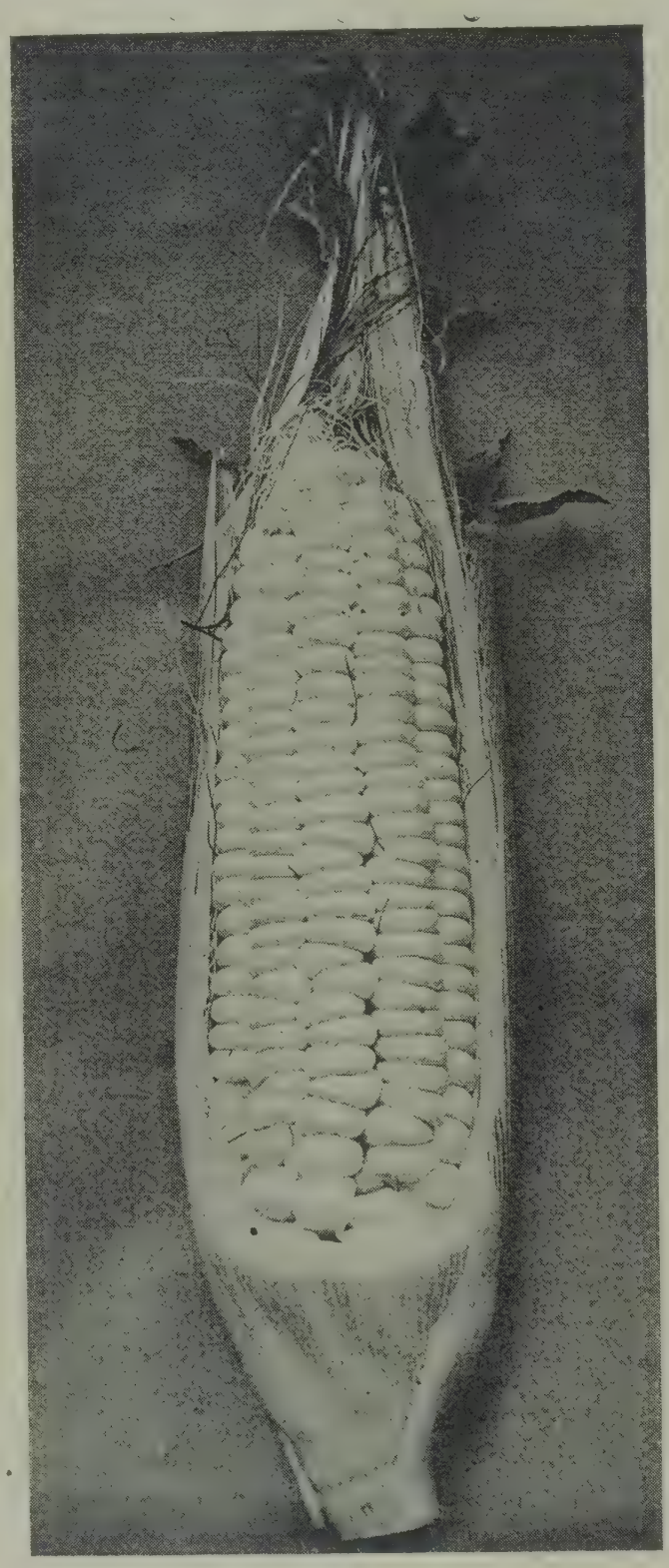
Cinematograph Pictures of Vegetable Growing.—Some extremely good and practical pictures showing planting Potatoes, earthing up, spraying, lifting the crop, also sowing Peas, Beans, and preparing Celery trenches, have been produced by the Topical Press Association. The pictures, which were prepared at Wisley, are of great teaching value.—X.

Maize or Sweet Corn as a Vegetable.—When my father visited America many years ago, his opinion coincided with that of Mrs. Earle that Maize was an excellent vegetable, but that the American way of *eating* it was "not pretty"; but at his brother's house he found that they "shelled" the cooked Maize from the cobs with a fork in the kitchen, and served it at the table like Peas.—ANNE AMATEUR.

Dwarf French Bean Masterpiece. — Last year this variety, along with several others grown both under glass and out on the open borders, behaved exceedingly well. In fact, grown in pots it has proved the best, and will in future be grown more extensively. The pods, produced in great profusion, are of excellent quality, and have been greatly appreciated. I may also add that the Beans grow to a good size, are very fleshy, and keep good and stringless long after several of the others which I have grown. Another, but an old variety that I have grown for many years, and which usually gives every satisfaction, is Negro Longpod. When given ample room the plants yield heavy crops of good, tender Beans, and continue bearing for a long time.—H. MARKHAM.

Exhibition *v.* Ordinary Cultivated Leeks.—Nowadays we hear many complaints about the coarseness of exhibition-grown vegetables from those who do not adopt this method of culture. The Leek is certainly a vegetable that pays for all the high culture it can have, and those who have not yet experienced the pleasure of eating these huge exhibition-grown examples have a treat in store. On a recent visit to Aldenham I asked Mrs. Beckett as a favour to cook in her own way some of these magnificent specimens, of which none are finer than those grown in the Aldenham kitchen garden, as I was anxious to test for myself the difference between the ordinary 8-inch grown stem and that double the length. In due time the treat came, and I confess that nevermore will I do anything but praise the "monsters," as some will term the exhibition-grown specimens. Leeks grown to produce fully blanched stems 16 inches long, 1½ inches or more in diameter, all within nine months, cannot be other than tender, succulent and full of flavour as compared with those that require a much longer time to attain half the size. The latter must be tough, lacking in flavour and, what is the most important item, tenderness of flesh. I am aware the success of the dish is much influenced by the manner in which the cooking is carried out. In this case, needless to say, it was superb. I came away with a firm resolve to persuade all I can to grow Leeks in the future on exhibition lines, even though it be but a dozen plants.—A. B. C.

Seakale Beet.—I have read with interest and satisfaction the recent articles in THE GARDEN in praise of this excellent vegetable, which supplies the grower with two distinct dishes for the table. Allow me, however, to throw a little additional light on the subject. I annually make a sowing in the open border the first week in May, which furnishes a supply from July onwards till severe frost sets in. During this period, however, there is an abundant supply of choice vegetables, and Seakale Beet has to take a secondary place. We allow it to stand through the winter, and it is when it starts into growth in May and



MAIZE COB EARLY DWARF.

A Sugar Corn of rapid growth well adapted for growing in this country.

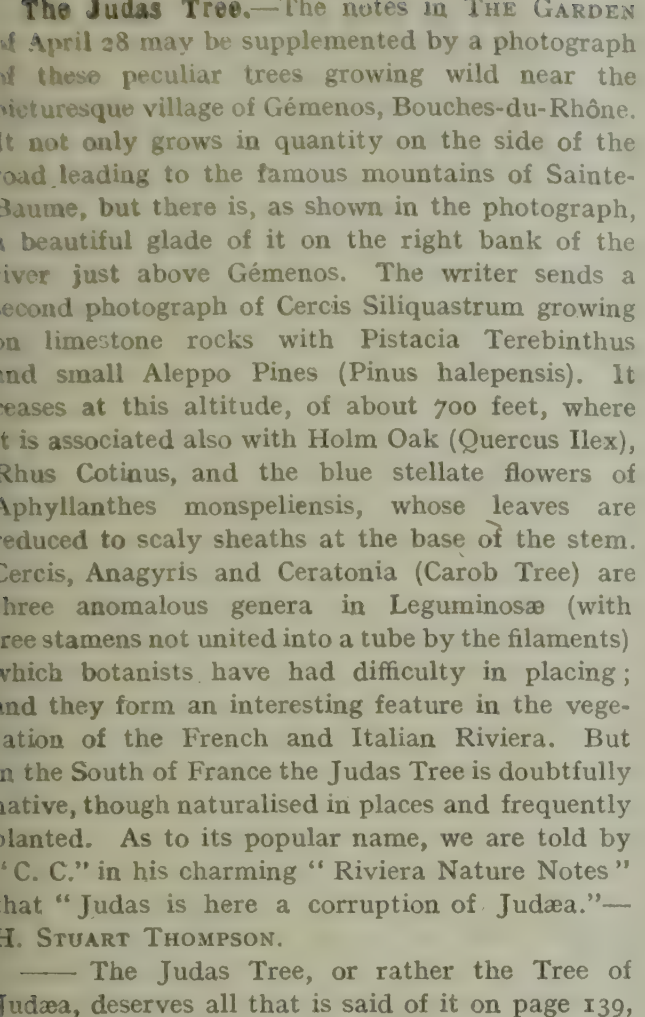
on through June that it is most appreciated, before Peas come in. I may also say that at this stage we find it most succulent and tender. My next point is in the way of a warning. I have grown Seakale Beet for more than twenty consecutive years, always getting the seed from the same firm. There has always been some variation among the plants, but up till two years ago the strain has been excellent, the leaf-stalks being flattish, thick, succulent and, with rare exceptions, as white as snow. Moreover, the plants always stood the winter well. These last two seasons, however, I have had a different experience, as the bulk of the plants have had greenish white leaf-stalks, these being narrow and deeply channelled (more akin to those of the Spinach Beet) and not nearly so fleshy and tender as they used to be. Paradoxical as it may appear, this inferior strain has not stood the winter nearly so well as the better strain. About 50 per cent. of the plants have survived the past severe winter, but only about 25 per cent. survived the previous winter. Another gardener in the district has had a similar experience, although getting his seeds from a different firm. Has the war anything to do with this?—CALEDONIA.

Bee-Keeping: Making a Start.—Mr. Arthur R. Goodwin quotes a writer in the *Field* who recommends Dutch bees. In the letter there is a very important and true statement—"but they are inveterate swarmers." Beginners in bee-keeping will hardly realise the full significance of this fact. Uncontrolled swarming is the bane of modern bee-keeping. There are a few people who keep bees entirely for the pollination of their fruit tree blossoms, for these Dutch bees are perfectly satisfactory; but by far the greater majority take up bee-keeping chiefly for the sake of the honey they hope to obtain. To secure a large amount of surplus honey, bees must *not* be allowed to swarm at will; herein lies the great drawback to the Dutch bees. Even with most careful management it is difficult to prevent them from swarming, and this is the reason why they are not popular with practical bee-keepers. I strongly advise beginners to obtain, if possible, a good resistant strain of British or British × Italian. Certain strains of these are quite as resistant to the Isle of Wight disease as is the Dutch bee, which is not immune to it. At the present time the demand for these resistant strains, which have been carefully worked up by expert bee-keepers, is much greater than the supply; but by 1918 there should be a good number of colonies available.—L. BIGG-WITHER, *Birdwood, Wells.*

The Felling of Fruit Trees by the Hun.—Mr. H. J. Mackinder, M.P., writing in the *Times* recently, said: "Next in point of wickedness stands the cutting down of fruit trees. This is one of the richest fruit districts even in fruit-growing France. Not merely were there orchards and fruit trees round almost every house, and avenues of fruit trees along the roads, but practically every field in the countryside was studded with fine trees from twenty to a hundred years old—Apples, Pears and Cherries. They stood over all the landscape with the regularity of chessmen on a chessboard. I write with due caution when I say that tens of thousands of these trees have been felled. They lie across the fields in ranks like men lying in extended order, not a branch having been lopped away, and each stump having a white, newly cut top to it. A few trees remain standing, but of these whole groups have rings neatly clipped round them so that they will die. Perhaps the felling of the fruit trees is felt by this Army of French peasants as the foulest stab of all. As I travelled back through Kent and looked up from my newspaper and saw an orchard, I found myself exclaiming, 'Why, there is an orchard standing!' When you have traversed mile after mile of that vast ruined orchard in France, even a townsman feels as in a nightmare. At the end of a day of it the rage mounts in your throat. It is difficult indeed, but vitally important, to make the people of this island realise the coldly scientific method of the Hun. The war is for him an act of commerce. It begins to appear that, after all, the result of it may not be a capital investment for himself, and therefore he destroys systematically the capital of his future competitor."

The Judas Tree.—The notes in THE GARDEN of April 28 may be supplemented by a photograph of these peculiar trees growing wild near the picturesque village of Gémenos, Bouches-du-Rhône. It not only grows in quantity on the side of the road leading to the famous mountains of Sainte-Baume, but there is, as shown in the photograph, a beautiful glade of it on the right bank of the river just above Gémenos. The writer sends a second photograph of Cercis Siliquastrum growing on limestone rocks with Pistacia Terebinthus and small Aleppo Pines (Pinus halepensis). It ceases at this altitude, of about 700 feet, where it is associated also with Holm Oak (Quercus Ilex), Rhus Cotinus, and the blue stellate flowers of Aphyllanthes monspeliensis, whose leaves are reduced to scaly sheaths at the base of the stem. Cercis, Anagyris and Ceratonia (Carob Tree) are three anomalous genera in Leguminosæ (with free stamens not united into a tube by the filaments) which botanists have had difficulty in placing; and they form an interesting feature in the vegetation of the French and Italian Riviera. But in the South of France the Judas Tree is doubtfully native, though naturalised in places and frequently planted. As to its popular name, we are told by "C. C." in his charming "Riviera Nature Notes" that "Judas is here a corruption of Judæa."—H. STUART THOMPSON.

—— The Judas Tree, or rather the Tree of Judæa, deserves all that is said of it on page 139, and even more might be adduced in its favour. Treated as a shrub in a mixed shrubbery, it is a very effective and distinct type, both in flower and in leaf, and also later in the season when bearing a good crop of its red pods. But it is of the genus, rather than of Cercis Siliquastrum, that I would offer a few particulars. Cercis is one of the few members of the Cæsalpinieæ represented in our gardens, the tropical genus Bauhinia being its nearest relation. The flowers differ essentially from those of the true Papilionaceæ in the edges of the upper petal being inside the others instead of outside. Cercis is one of those types of the vegetable kingdom represented in the Eastern Mediterranean region, eastward to Afghanistan, recurring in China and in Japan, and widely spread in temperate North America. Whether it forms a conspicuous feature in any part of its geographical area I am unable to say, but the little evidence I have points to a scattered rather than a social existence; and the same may be said of the species, though they are all very closely allied. C. chinensis, of which C. japonica is a synonym, is a species of comparatively recent introduction, more nearly related to the American C. canadensis than to C. Siliquastrum. From the latter it differs in stature, being, on the authority of Professor A. Henry, a valuable timber tree 50 feet high, with a trunk sometimes 12 feet in girth. Yet the pods are exactly like those of C. Siliquastrum, supposing I have correctly referred them to C. chinensis. The late Professor D. Oliver described and figured (Hooker's "Icones Plantarum," plate 1894) a new Chinese species, to which he gave the name of racemosa on account of the axis of the inflorescence being elongated and bearing scattered flowers. Returning to the North American species, C. canadensis is recorded as having been introduced into England in 1730; but it is very rare in this country now, and possesses no special claims on our recognition. It is at home in Canada and the Eastern United States southward to Virginia. C. occidentalis, to which C. californica and C. reniformis are referred by some American writers, is a native of California and North Mexico in the Sierra Madre above Monterey in Nuevo Leon. The present distribution of Cercis is in isolated areas around the northern hemisphere, suggesting an ancient type. I must finish, like Mr. E. A. Bunyard, with the corrupt name of a Pear in which Joséphine de Malines becomes Joseph-on-the-Palings! This is a memory of my youth in Sussex.—W. BOTTING HEMSLEY, V.M.H.



WHERE THE JUDAS TREE GROWS.
Old bridge spanning highway near Gemenos.

A GLADE OF WILD JUDAS TREE NEAR GEMENOS, SOUTH OF FRANCE.

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THE GROWING OF VEGETABLES

BY MRS. C. W. EARLE.

TO get French Beans early it is well to grow them in a box in a hotbed and plant them out when all fear of frost is over. French Beans and Scarlet Runners are never picked young enough; they should not be left to require the order in all cookery books, "String the Beans and cut them up." Nothing ought to be cut but the stalk. The string should not have grown, and the Beans should be cooked whole. They are then, with a little butter added, a vegetable really worth eating. The same thing applies to Scarlet Runners. Some of these are always planted here between Apple trees. They grow up into the branches, and this protects them from the first autumn frosts, which destroy those in the open. The more they are picked young the longer they continue to bear.

This is also the case with Vegetable Marrows, which ought not to be larger than a big Lemon. The white Haricot Beans are best kept for winter use. When they turn yellow they should be pulled up by the roots, tied together in bundles, and be hung head downwards in a dry shed or outhouse. They are excellent when plain boiled, and any that are left, rubbed down, make an excellent soup with vegetarian stock.

There is no good evidence that the Old World had either the Dwarf French or the Runner Beans. No trace of them has been found in Egyptian tombs or in the lake dwellings in Switzerland; but after the discovery of America, and practically immediately, my scientific friend tells me that all authors refer to Kidney Beans, give descriptions, and show recognisable drawings; whereas before, in the fifteenth century, all was silence. Furthermore, the Beans have been found in tombs of unknown age, but along with other remains of indigenous American plants, and with them only, in Peru, apparently antedating the Spanish occupation. It would therefore appear to be true that they are natives of America and were not introduced to Europe or Asia before the time of Columbus. This is also true of Maize, which we wrongly call Indian Corn, and which the French name Blé de Turquie. The Romans certainly had the Broad Bean and used it, also the Pea, the Lupine and Vetch.

The foreign way of preserving French Beans and Scarlet Runners is to pick them day by day and lay them in separate earthenware pans, a handful of Beans, then a handful of salt, and so on till the pan is full. Of course, the Beans in the salt must not be allowed to get touched by frost in the autumn. When wanted they are taken out, well soaked so as to get rid of the salt, and boiled in the ordinary way till they break to a certain extent when stirred, a little fresh butter, a squeeze of Lemon and a little chopped Parsley being placed on the top. Preserved in this way, they can be eaten all through the winter Many good gardeners are against the use o chemical manures. I expect that is because they require more knowledge than is possessed by most people. It is a very good economical plan for all vegetable refuse, leaves, tufts of grass, Chickweed, &c., to be collected and interlaid with stable manure, so that one cartload of manure becomes equivalent to three cartloads.

Here is a good war bread recipe, and may be useful to those who want a good deal of bread.

(I am so glad of anything that teaches baking at home): 1lb. of Barley meal, 2lb. of Wheat, ¼lb. of Maize, ¼lb. of Oats, ¼lb. of cooked Rice, mixed as for ordinary bread with yeast and water.

I have not yet tried it myself, but the unusually bad spring and the war turn one's thoughts to all sorts of economies, and I think the long stalks of winter greens, Brussels Sprouts, &c., always thrown on the rubbish heap, if cut up and boiled down with neither salt nor soda would make an excellent foundation for vegetarian stock. Water in which all kinds of vegetables have been boiled makes a drink which children like.

THE ALLOTMENT WEEK BY WEEK

BY A. CECIL BARTLETT.

MANY beginners seem to be concerned over the use of wire-netting for Peas and Runner Beans, so probably the accompanying illustration of a vigorous young row of Peas climbing up a stretch of wire-netting will show that no harm accrues from contact with the wire. Even for the dwarf Peas, which may be grown without, it pays best to place sticks or some other support, for then the Peas may devote their whole energies to growing and podding. But no one should fail to grow Peas because of a lack of stakes or wire-netting, for the dwarf varieties yield quite profitable crops when allowed to grow without support. For a time these unsupported Peas keep erect, but, as the pods mature, the plants usually fall over, when it will be convenient to see that all the haulm lies on the same side to facilitate gathering the pods. Such a length of wire-netting as that depicted would be also suitable for Scarlet Runners. Broad Beans are not climbers, but it is usually wise to place a stout stake at each end of the rows and stretch cord to prevent the plants being blown over.

A Common Error.

In several allotments I notice that some workers have ridged their Potato rows at the time of planting. This must be due to a misunderstanding, for, in effect, this practice means that the sets are planted too deeply. Where the ridges are only 6 inches high it means that the tubers are covered by almost a foot of soil, so deep that, as the sun and air cannot yet warm the soil to this depth, growth will be late. Those who have so ridged their Potatoes are advised to level the soil with a rake, otherwise, besides having late crops, they will experience difficulty in destroying the weeds which will inevitably appear on the ridges. Later on, when the plants are earthed up at the usual stage, all weeds that try to grow will be smothered by the luxuriant foliage.

Making Fresh Plans.

Many who set out with plans of model allotments, which disposed of the various crops in their order of maturing so that the autumn digging is made straightforward, have been compelled in most cases to modify their plans. The unfortunate weather earlier in the year made even the most energetic worker later with the digging than was anticipated, and the observance of a prearranged cropping plan depends on all the plot being dug up by early spring. But the urgent necessity for sowing some seeds and planting early Potatoes as soon as the first drying winds came, while the plot was only half dug, has upset arrangements and made it necessary to make fresh plans. In any case, the convenience of having all the early crops consecutively arranged is not so great as is often contended. As in the case of Potatoes, the after-cultivation, with which I hope to deal in my next article, can remedy very greatly insufficient soil preparations previous to planting the sets; while it is inadvisable to disturb the soil, except on the surface, with seedling crops.

Brussels Sprouts.

In some quarters the writers of the Royal Horticultural Society's pamphlets have been adversely criticised for banning Brussels Sprouts from the allotment. While one realises the great amount of green vegetable that can be gathered from one Brussels Sprout plant, under expert cultivation, it must always be borne in mind that this variety requires more space and better cultivation than any other green vegetable. The most profitable plants are those raised under glass early in the year, and in due course planted out at 30 inches apart. The allotment holder who has sown seeds out of doors will almost certainly find that his crop will consist of a rosette of leaves and comparatively few small buttons. But the other winter greens —Kale of various sorts, Savoys, late Broccoli and the like—if sown now in shallow drills a foot apart, may be relied upon to give satisfactory and profitable returns. For windswept plots, as well as elsewhere, Cottager's Kale is an excellent variety, and it should be remembered that the Ormskirk varieties of Savoy are hardier than the Drumhead.

Peas for succession and the main crop of Runner Beans should be sown now, remembering that thin sowing pays best.

PEAS GROWING ON WIRE-NETTING.

ECONOMY IN THE GARDEN

ECONOMY is the order of the day, in the garden as elsewhere, and waste is taboo, but there are doubtless many well-meaning folk who commit waste unknowingly. It will be admitted that many of the larger gardens are not only insufficiently productive for present-day requirements, but allow good material to run to waste. This loss may, by a little stretch of the imagination, be likened to the depreciation of house property, which is recognised by law as of two kinds—permissive and voluntary, and it is in the former category that the sins of the amateur gardener mostly lie, permitted, let us hope, more through ignorance than for other reasons.

The manure heap is perhaps the greatest cause of offence in this respect, though the waste from over-seeding and over-manuring comes a good second. Waste of produce, owing to deferred cutting and over-ripeness, is another, and sometimes a glaring, instance of want of economy, varied by the practice of the opposite extreme, owing to over-insistence, maybe, on the calls of the inner man, or to the tyrannous *régime* of the suburban kitchen. Leaving the manure heap for the moment, as being quite a theme in itself, as those of real knowledge are aware, let us glance at several common causes of waste mentioned.

Waste from over-seeding. How true this is and how often held up to reproach, but still it goes merrily on. Nature is very bountiful in this respect; why not imitate her? But natural conditions are very different to those obtaining in a fertile garden, and over-seeding means extra work later on, some extra toll on the soil, and the probability of an attenuated, and therefore not fully productive, plant. The latter point is more than likely, because few people are courageous enough to ruthlessly destroy fine seedlings which they have grown and which look so endlessly healthy and potentially productive in their early days. Yet it is in their very early days that proper light and air make so much difference in quick maturity later on. Yet another point: an attenuated crop is sometimes a diseased crop.

Over-Manuring is a more venial offence than over-seeding, because it is done with good intentions and is perhaps harder to control; but it is certainly lack of judgment. It is difficult for the amateur to realise how infinitesimal is the quantity of a stimulating food which a plant requires. In the average garden, reliance on good stable manure is the safest and most economical course for those gardeners who are without that special knowledge of chemical manures which is almost essential for their proper use.

A more patent and glaring waste is associated with the cutting of very young fruit and vegetables, such as microscopic Peas and Potatoes the size of marbles, and the year 1917 should put a period to this. As far as gustatory reasons for such folly go, these are based on ignorance, for no undeveloped garden produce has much flavour; and somewhat the same reasoning applies to forced stuff. There is some excuse for Carrots and Turnips, and perhaps Leeks, in ordinary

years, but hardly for Potatoes. Small salads come in a different category, as they occupy the ground such a short time, but Coleworts are hardly an economical war vegetable.

The care of the manure heap leaves much to be desired in many gardens. This is inevitable, to some extent, because it is a problem which scientists and farmers have experimented with and pondered over for generations, and yet new facts are constantly coming to light which suggest improvements on existing methods of protection. For it is protection against the ravages of climate and fermentation that is required. Animal manure is an intensely complicated substance, always in a state of active change, and liable to immense loss owing to the soluble and volatile nature of its most valued ingredients. It is usually, and perhaps necessarily, exposed to the elements in a way which would savour of madness in the case of artificial manures, yet the latter are in their essence the same substance, concentrated out of all recognition, and rigidly preserved under cover. There is, for these reasons, necessarily much shrinkage in fresh manure. This should be clearly understood and accepted as inevitable, and does not spell waste to nearly the same extent as does careless treatment in a later stage to which the following hints particularly apply: Avoid, if possible, all loss from outside moisture or access of air. This is still the sum and substance of the latest advice on the subject—indulge in a policy of non-intervention.

GERVAISE TURNBULL, F.L.S.

ONIONS

IN their wild state—and that was long since, for Onions have been cultivated several thousands of years—no doubt the bulbs were of small size. Selection and cultivation, however, have changed the nature of the plant so much that rarely are large stems seen now, the energies of the plant being devoted to the production of fine bulbs. These differ more or less in size, form and colour, but the growing plant exhibits very little distinctness. The bulbs differ considerably in shape. One variety, the Cocoanut, is quite long and narrow, being pointed at both ends. The majority of the bulbs of all shapes when ripe are brown in colour, some, however, having on the brown skin a reddish tinge, others a shade of yellow. The ground colour also varies, some being pale, some dark. There are two deep red coloured varieties—the Old Blood Red and the Crimson Globe. There are several white-skinned varieties, such as the little Silver Skin, The Queen, White Lisbon, or White Tripoli. All of these are of a very soft, watery nature, and decay rapidly when once ripe. The brown or shaded brown skinned varieties are those most generally grown, and first-rate stocks are Banbury Cross, Main Crop, Sutton's A1, Lord Keeper, Giant Zittau and Anglo-Spanish, rounds; while fine oval or globular stocks are Ailsa Craig (the finest of all varieties), the Wroxton, Cranston's Excelsior, Sutton's Globe, Carter's Record and Dobbie's Golden Globe. Older varieties, such as Bedfordshire Champion and James' Keeping, while still good, do not give such fine bulbs as newer varieties.

Times for Sowing.

Onion seed is habitually sown at three diverse periods or seasons—outdoors in August, usually about the 20th, to secure fine bulbs in the following summer, chiefly for exhibition; or in the spring, at the end of March or during April, for the production of fine ripe bulbs in the autumn for storing through the winter; then sowings are commonly made in midwinter in pans filled with sandy soil and placed in a frame or greenhouse where there is a gentle warmth of from 50° to 60°. Such raised plants put out thinly into soil specially prepared by deep working and manuring produce quite large bulbs in the autumn, that fine variety Ailsa Craig often giving produce of the weight of 3lb. and over. While any variety so raised and treated produces fine bulbs, the best are from such superior stocks as have been previously named.

Onions for Keeping.

Autumn sowings are always made of the large but soft-bulbed Tripolis or Roccas. These, however, very soon decay after ripening, and are then often worthless before they can be used. It is now proved that if autumn sowings be made of the best brown-skinned varieties, whether round or globular, not only are very fine bulbs produced in the following summer, but also that they keep better, and are therefore far more valuable. Still further, if in thinning the rows of plants in March or April some be lifted with special care to preserve the roots and be dibbled out 6 inches apart in good ground, they will also produce exceedingly fine bulbs. In all cases of open-air-sown Onions the rows should be fully 12 inches apart.

A GOOD BED OF CRANSTON'S EXCELSIOR AND AILSA CRAIG ONIONS IN A SCOTTISH GARDEN.

Seedlings and the Onion Fly.

Spring-sown seed should be got in early if the season be open and the soil fairly dry and in good condition. As in sowing much treading is needful, it is obvious that to do so while the ground is wet would be productive of evil. Generally, early sowing not only results in giving strong plants to stand the summer heat, but also in making the plants strong and hardy early, enabling them to withstand the attacks of the Onion fly, a pest that never troubles autumn sowings or those plants raised under glass and planted out when strong. Freely dusting the rows with soot when the plants are damp, and washing it in with liberal waterings the next morning, is good practice, as the soot renders the plants nauseous to the insects, and when washed into the ground promotes quick growth. Through the summer, after proper thinning has been performed, the chief need with spring-sown Onions is to keep the surface well stirred with the hoe, as such practice checks evaporation and retains moisture. A thin dressing of sulphate of ammonia applied twice during the summer and good weeding are also helpful to bulb production.

Winter-sown Onions under glass need much more care and attention than do outdoor-raised plants. They are raised from seed sown in pans filled with light sandy soil at the end of December or early in January. These pans should be stood near the glass and in gentle warmth. When the plants are some 3 inches high, they need to be lifted very carefully and pricked out 2 inches apart into shallow boxes filled with good fine soil, and be still kept in warmth until 6 inches in height; then placed in a frame looking south, where they can have more air, and finally by greater exposure be well hardened off, ready for planting outdoors in April. Such plants should be quite stout and firm, also erect, and fully 8 inches in height. Transplanting should be done with great care, lifting each plant with a good ball of soil and roots, and replanting carefully without disturbing the roots, and not deeply. Commonly, when very fine bulbs are desired, the rows of such plants are 20 inches apart; a very useful breadth is 16 inches, the plants being 12 inches apart in the rows. This form of Onion culture, however, necessitates high-class soil preparation, the ground being trenched from 20 inches to 30 inches deep, and the deeper the better, ample dressings of good animal manure being buried and mixed with the several layers or spits of soil, while that on the surface should have forked in, some time before the planting takes place, a good dressing of well-decayed manure that is short and does not create coarseness.

Onions are very deep rooters, and where so much worked soil is furnished and ample manure is added, roots strike deep in search of it, thus finding good as well as ample moisture when the surface soil is dry. After plants have become well established, a mulching of short manure on the surface not only serves to check evaporation, but also furnishes plant food. When water is given, which may in prolonged drought be needful, it should be in the form of a heavy soaking, as driblets do more harm than good. With such treatment quite wonderful bulbs will be produced in the autumn.

Outdoor-sown Onions need deeply worked and well-manured soil. The work should be done fully a month before sowing, to enable the soil to settle down, as Onions like a firm soil. When the rows are 12 inches apart and the plants while quite young are thinned down to 4 inches apart, fine hard, long-keeping bulbs are produced in the autumn and a very heavy crop. When the sample is good, even, clean and well ripened, few ground crops are more profitable than spring-sown Onions. In the winter the bulbs may be stored on shelves in an open shed, or be tied thickly round sticks coated with straw, and, in the form of ropes or long clusters, be hung in any cool, airy place.

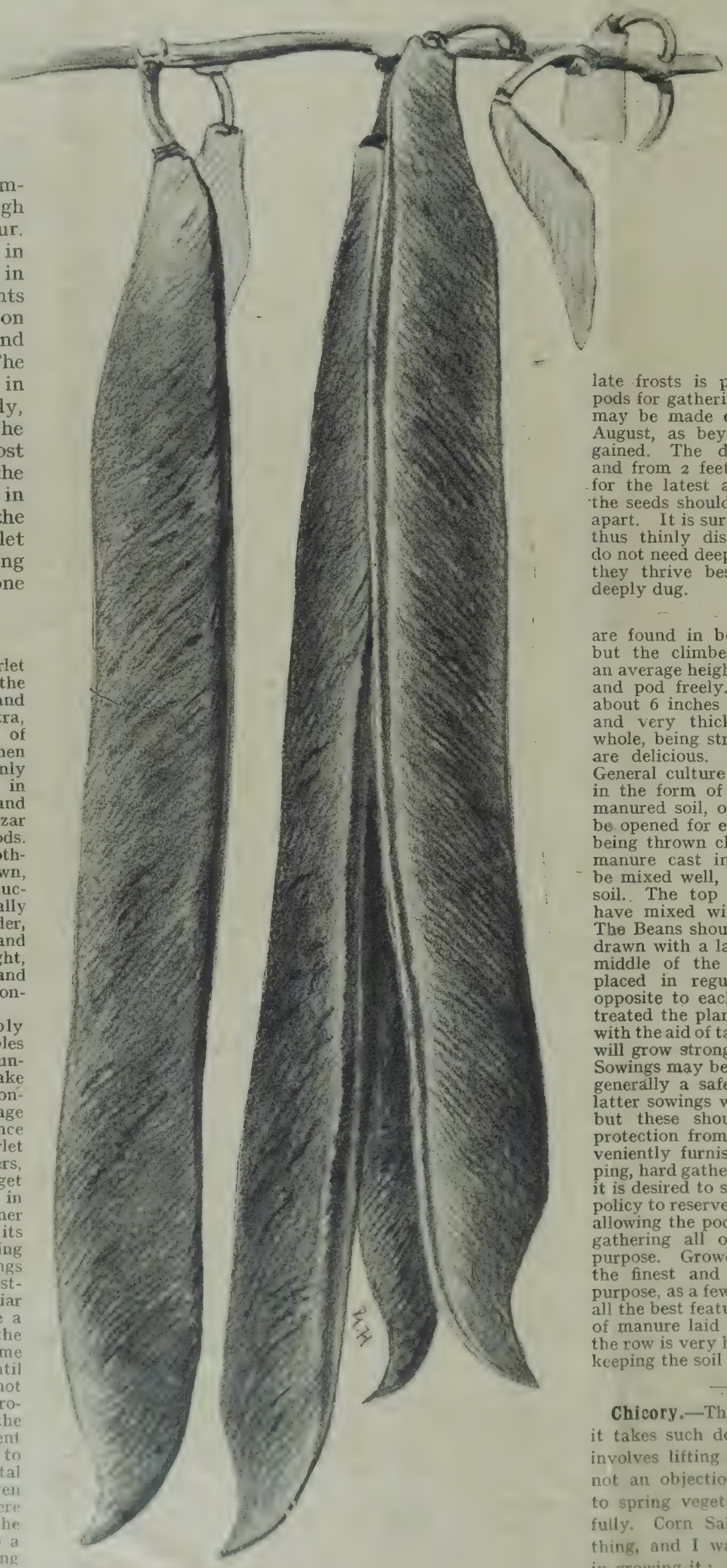
BEANS TO SOW NOW

UNDER this heading come all the tender climbing and dwarf Beans so useful in the summer, and furnishing a large supply of pods over a long season. The Runner, or climbing section, is, without doubt, the most useful, and certainly lasts longer than any other. Of Runners Hackwood Park Success, White Mammoth and the old Scarlet or rough Dutch Runner are most in favour. This section is very robust in growth, for if sown thinly and in deep, well-manured soil the plants will grow to a height of 10 feet on tall sticks or other supports, and fruit for fully three months. The flowers are scarlet, white, and, in the case of the Old Painted Lady, both white and scarlet. The scarlet-flowered forms are most liked, but in other respects the whites and scarlets differ only in the colour of the flower and the seed. Not infrequently scarlet Beans produce plants bearing white flowers, and a white one will often do the reverse.

Kidney Beans.

Former old varieties both of scarlet and white have been displaced by the introduction of such long-podded and very productive forms as Ne Plus Ultra, Hill's Prize, Prizewinner and Best of All; the former produces pods, when the soil is good and the plants thinly placed, from 9 inches to 12 inches in length, and yet very tender, fresh and succulent. Of the white forms, Czar and Giant Titan have very fine pods. The old case-knife section of smooth-podded Runners, now seldom grown, have been superseded by the introduction of climbing Dwarf Beans, especially the running form of Canadian Wonder, which is also known as Tender and True. This produces long, straight, smooth pods in great abundance, and over a long season when cultural conditions are favourable.

The Bean family is unquestionably one of the most useful of all vegetables for medium-sized gardens, and the Runner kinds may be grown for the sake of their beauty alone, without considering their pods. In quite a cottage plot one may frequently see the fence hidden with the foliage of the Scarlet Runner, brightened with scarlet flowers, as pretty as anything one can well get among climbing plants, and lasting in beauty for many months. If the Runner Bean were not of such great value for its crop, it would be treasured as a climbing plant for the garden. Many things grown for their flowers are less interesting and beautiful than this familiar vegetable. So many fail to secure a good crop through not gathering the pods as fast as they have attained some size. When permitted to remain until they have become old and stringy, not only is the plant burdened and the production of pods interfered with, but the pods are less wholesome. Frequent pickings should be the rule. Striving to get pods as large as possible is a fatal policy. This pernicious practice is even increasing, and with bad results. There is naturally a smaller crop, because the energies of the plant are directed to a few pods, and hence vegetable growing becomes expensive and unprofitable. Exhibitions frequently teach unwholesome lessons by promoting among competitors a love or desire for mere size as against crop and quality, because, as everyone should know, size does not denote good flavour. Big Beans, Turnips, Cabbages, Marrows and other vegetables should be discouraged; then will the vegetable garden become more profitable. Of all the forms of Bean, the Runners are of the greatest use to the cottager and amateur gardener who cannot spare much space, because the plants can be accommodated in odd corners.



RUNNER BEAN HACKWOOD PARK SUCCESS.

Dwarf Kidney Beans.

These are usually treated as crops of a more fugitive order, and seldom remain any length of time on the ground. The great facility with which sowings can be made renders it needless to preserve the plants after they have furnished good gatherings. Varieties are numerous, some very early and with small pods being best suited for forcing in pots in houses. For outdoor purposes excellent varieties are Ne Plus Ultra, Mohawk, Long-Podded Negro, Magnum Bonum and Canadian Wonder. These make an excellent succession if small quantities be sown in this order. The earliest outdoor sowing may be made on a warm border early in May, and if the plants be lightly protected at night for a few weeks, until danger from late frosts is past, they will be carrying good pods for gathering at midsummer. Other sowings may be made every fortnight up to the end of August, as beyond that date nothing would be gained. The drills should be 3 inches deep, and from 2 feet for the earliest to 2½ feet apart for the latest and strongest, while in the drills the seeds should be placed not less than 4 inches apart. It is surprising how far a pint will go when thus thinly distributed. Though Kidney Beans do not need deep, rich soil, yet, like all these crops, they thrive best where the ground is at least deeply dug.

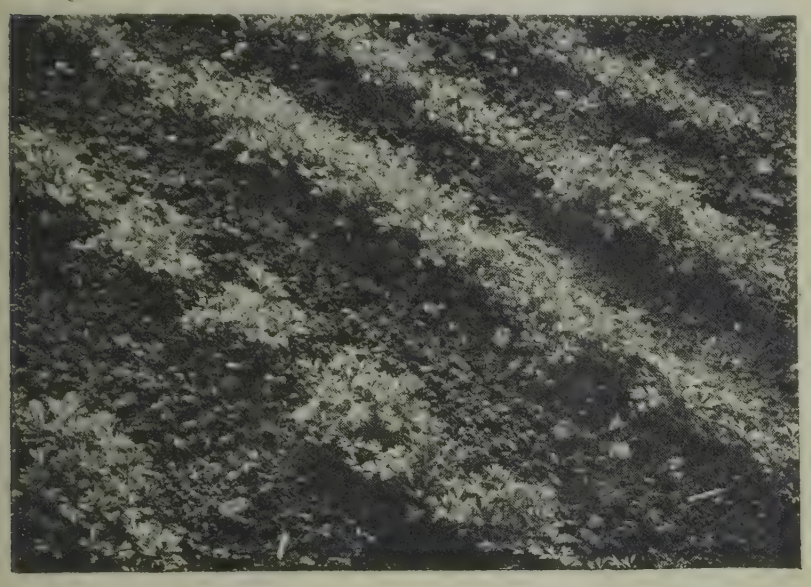
Butter Beans

are found in both climbing and dwarf sections, but the climbers are the best. These grow to an average height of about 6 feet if well cultivated, and pod freely. When ready for use the pods, about 6 inches long, are of a rich golden colour, and very thick and fleshy. They are cooked whole, being stringless, and when properly served are delicious. The best variety is Mont d'Or. General culture for all climbing Beans should be in the form of either deeply trenched and well-manured soil, or else trenches 2 feet wide should be opened for each row, the top spit of 12 inches being thrown clean out, then a thick dressing of manure cast into the bottom, and this should be mixed well, by deep forking, with the bottom soil. The top soil may then be replaced, and have mixed with it some well-decayed manure. The Beans should be sown in drills 3 inches deep, drawn with a large hoe, 6 inches apart, down the middle of the prepared trench, and the seeds placed in regularly down each drill, but not opposite to each other, fully 9 inches apart. So treated the plants later, being properly supported with the aid of tall, stout sticks or sprayed branches, will grow strong and crop for a very long season. Sowings may be made from the middle of May—generally a safe time—to the end of June. The latter sowings will give very late cropping plants, but these should be grown where some slight protection from early autumn frosts can be conveniently furnished. To secure continuous cropping, hard gathering of the pods is essential. Where it is desired to save some plants for seed, it is good policy to reserve a portion of a row for the purpose, allowing the pods to harden and mature, and then gathering all others produced too late for the purpose. Growers for exhibition invariably save the finest and handsomest long pods for such purpose, as a few seed-beans so obtained perpetuate all the best features of the strain. A liberal mulch of manure laid along over the soil on each side of the row is very helpful in checking evaporation and keeping the soil cool and moist.

Chicory.—This is rather a bother to grow, as it takes such deep root, and to bleach its stalks involves lifting and covering up. But if this is not an objection, it is a very pleasant addition to spring vegetables, and helps a salad wonderfully. Corn Salad is rather a poor, scrambling thing, and I was not impressed with my efforts in growing it; but it makes for variety in greenstuff and may be given a trial, but is too puny to stay the appetite.—G. T.

THINNING SEEDLING CARROTS

AT this period of the year the beginner in the cultivation of vegetables will find plenty of work to keep him engaged if justice is to be done to the different subjects under his care. In no section is the work more important than that of the vegetable garden. Here quite a number of seedling vegetables will require immediate attention if the ultimate result is to equal the grower's expectations. Foremost in this connection may be mentioned Carrots, Parsnips, Onions, Beetroot and Turnips. Each of these should be taken in hand forthwith,



1.—ROWS OF OVERCROWDED SEEDLING CARROTS BEFORE THINNING.

if not dealt with already, and in a few days the respective crops will show their appreciation of this attention by vigorous and satisfactory growth.

In the case of the Carrot, I have endeavoured to portray the beds both before and after thinning. In Fig. 1 the reader will note the seeds have been sown thickly, and in consequence the seedlings give evidence of being very considerably crowded, rendering the thinning-out process all the more difficult. We are sometimes told to commence the thinning of Carrots when the seedlings are a few inches high; but I am disposed to deal with them before this, because the results are so much more satisfactory when this work is done earlier in the history of the young plants. I prefer to partially thin the plants as soon as they are in the rough leaf, subsequently thinning out superfluous plants a little later, when the character of those retained can be better determined.

Immediately subsequent to the thinning the Dutch hoe should be frequently used, stirring the soil between the rows of plants, in this way aerating the soil and, at the same time, keeping the weeds under. When the thinning of Carrots is unduly delayed, the young plants become drawn and weakly, and the roots ultimately will be found distorted and irregular in shape. At the first thinning long-rooted Carrots should be left about 4 inches apart; intermediate, 3 inches; and stump-rooted or short-horn sorts about 2 inches asunder. When real progress is noted later on, thin out the long-rooted to 8 inches apart, intermediate to 6 inches, and the stump-rooted to about 4 inches. In Fig. 2 a section of a bed of Carrots that have been carefully thinned is shown. Incidentally, the Carrot is, above all else, a crop for a light soil. Only short-horn varieties that crop early should be selected for heavy ground, and here it might be mentioned that coal-ashes, which are generally of better use on the garden path than elsewhere, may be applied with advantage to ground on which Carrots are grown.

SALADS

THE cultivation of salads is not the least important of a gardener's duties, for these in many cases are required for daily consumption the whole year round. Of salads, Lettuce may be said to be the most important, so this shall be first considered. By growing suitable varieties of both Cos and Cabbage, and if proper accommodation is provided, there should be no difficulty in obtaining Lettuce throughout the greater part of the year. The best qualities the Lettuce can have are: In spring the property of turning in quickly, in summer to be slow in running to seed, the least susceptible to damp in autumn and winter, and hardiness.

Lettuce.

In order to maintain a continuous supply of Lettuce, seed should be sown at intervals from January to September. In January sow the seed in boxes and place these near the glass in a gentle heat. If the cultivation of Lettuce is practised upon a large scale, instead of sowing in boxes, sow either upon the surface soil of a pit under which runs a hot-water pipe, or upon 6 inches of soil, resting upon a mild hotbed composed of two parts leaves and one of stable manure, in a cold frame. From the time the seedlings appear they should be grown sturdily, and must experience no check. Ventilate carefully according to the state of the weather, and so long as there is any likelihood of frost cover the frame every night with mats.

The variety selected will depend upon whether the cultivator prefers a Cabbage or a Cos Lettuce; the former turns in and is ready for use more quickly than the latter. An excellent Cabbage Lettuce for the early sowing is Golden Queen, a sort that is rather under medium size with smooth, green leaves. It forms solid, crisp and tender hearts.

Plants from the early sowing, after being well hardened off, may be planted out on a south border, placing them about 8 inches apart. Instead of putting them out in this manner, they may be dibbled in a rather rich and light soil in a warm frame about 7 inches from each other. Grown in this way Lettuces of the most delicious flavour and finest texture are obtained. Should cold, cutting winds prevail after planting the young plants outside, as before mentioned—and in early spring they frequently do—temporary protection, furnished by means of mats or branches of Laurel 1 foot or 2 feet long, must be given. Place these branches in the ground between the plants all over the bed, and there let them remain until the Lettuces are established.

If a Cos variety is required, Superb White, a selection from Paris White, is excellent. Growing as it does larger than Golden Queen, this variety must be placed at least 2 inches further apart when planted out. About the first week in March a sowing may be made out of doors on a south border. Sow thinly, so that the seedlings may have plenty of room to properly develop. Whether the sowing is made a few days sooner or later is immaterial, but take the first opportunity when the ground is in a suitable state, *i.e.*, when it can be trodden or raked without adhering to either one's boots or the rake.

After sowing, fix a net over the bed, keeping it a foot or more above the soil by means of sticks. The two varieties recommended above for sowing under glass in January may be sown in early March outside, with Commodore Nutt and the Cabbage Lettuce New York. These varieties will stand a long time in hot weather without running to seed, and by the time the plants from early sowings are ready for cutting, hot weather is not unusual.

Royal Albert, another Cabbage Lettuce, much resembles New York, except that it is a lighter green; both varieties are large, with crinkled leaves, and form large, tender and crisp heads of the first quality. These attributes considered, together with the fact that they do not easily run to seed, mark them as the best of summer Cabbage Lettuce. Chelsea Gem is also a good Cabbage variety for summer, of medium size, with smooth leaves.

Of Cos varieties for summer, Eckford's Mammoth White is, taking all things into consideration, as good as any, though it is closely followed in point of merit by White Cos.

Whether one or more of these summer Lettuces are grown, frequent sowings are necessary to maintain an uninterrupted supply. As soon as the seedlings from the first sowing out of doors commence to form the first rough leaf, a second sowing should be made, and when the resulting seedlings have reached a similar stage, sow again, and so on to the end of the season. During the months of May, June and July sow the seeds thinly in drills on a north border, making the drills 12 inches apart. At the end of June discontinue sowing the summer varieties, with the exception of Mammoth White, which is sown once more early in July. Then are also sown Sugarloaf, Grosse Parisienne, and Lee's Immense Hardy Cabbage. The first and last named are of medium size, and the French variety is large; all are valuable for autumn use. These three varieties are selected for the second sowing in July, which, together with the subsequent sowings, is larger than those made previously, so as to provide a plentiful supply of plants for planting out for the autumn and winter supplies. Early in September the last sowing of the season is made on a south border, the varieties used being Sugarloaf, Lee's Immense Hardy, Bath or Brown Cos, and a good summer Cabbage variety such as Perfect Gem or All the Year Round. The first three mentioned are quite hardy; the last two are more tender, as also are some others that are good for summer use, although they survive mild winters.

2.—SEEDLING CARROTS AFTER THINNING. EACH PLANT HAS ROOM TO DEVELOP.

As soon as large enough the best plants from the September sowing should be planted out on a south border, there to remain during the winter. They will be ready for cutting during late April and May. Brown Cos is at that season excellent—tender, crisp and sweet. The smaller plants are left in the seed-bed throughout the winter. Should there be insufficient plants from the last sowing out of doors, sow again in October in a cold frame, leaving the plants there during the winter, and plant them out in the spring. Although some varieties of Lettuce are quite hardy when the plants are small, they are much more tender when fully grown and blanched. In the month of October, therefore, some provision should be made to protect them from frost.

Those that are fully grown may be protected by means of mats supported by rods that are attached to short stakes driven into the ground.

(*To be continued.*)

SEASONABLE NOTES ON DAFFODILS

BY THE REV. JOSEPH JACOB.

"THE stars in their courses fought against Sisera." Nature every now and again can give a very ugly knock. As if eelworm, Fusarium and war were not strong enough, they must needs take Nature as an ally in their attack on the Daffodil.

We in England have had a dreadful spring. It is but cold comfort to read that in the past there have been others as bad; that John Wesley in his diary recorded frost and snow from early October, 1784, until April, 1785; and that equally unpropitious springs were mentioned a century earlier still by "J. W." in his "Systema Horticulturæ." This knowledge does not make it any warmer at nights, or bring down from the skies genial and growth-giving April showers. It does not put forward the blooming season by an hour. Hence the one show (that of the Royal Horticultural Society in London) that there might have been had to be abandoned. It does not add one half-inch in stature to either stem or leaf. Hence what flowers there are are borne on stalks by no means of the Pearson standard, and the foliage is shorter by a good deal than it ought to be.

The Daffodil Season Out of Joint.

Poor old Daffodil; you have been hard hit this time and no mistake. As an oasis in a cold and dismal spring there came a gold medal exhibit from Messrs. Barr and Sons to the Drill Hall on the 24th of last month. It was the only one there. Need more be said than that it was from favoured Cornwall? How impossible such a display would have been from the Midlands or the North can be gauged by a comparison of some openings in my own garden, *e.g.*, William Baylor Hartland was fully out on *March* 26, 29 and 30 in the years 1912, 1913 and 1914 repectively, whereas in 1917 it did not expand until *April* 23.

Mr. Ramsbottom's Lecture.

Are we downhearted? Much will depend on this lecture and what is said there. We will then know the best and the worst. Who is responsible for its published title I know not. It is, however, somewhat of a misnomer, for that dire scourge eelworm is to be included, Mr. Chittenden has informed me. This is as it should be. Both Fusarium and eelworm have got out of the stable, and what is to be done we all want to know. Blessed be the man or the woman who tells us how to fight. We cannot ignore the menace any longer. Thousands of bulbs have been fusariumed and eelwormed at home and in the Dominions where Daffodils are grown. Something must be done, or our flower will lose its proud position as the Monarch of Spring. Before these notes appear the lecture will have taken place. I hope to give Daffodil readers an account of the proceedings.

The Barr Cup.

At their meeting on April 24 the Narcissus and Tulip committee of the Royal Horticultural Society unanimously awarded this cup to Mr. Walter T. Ware for his work on behalf of the Daffodil. (The cup is held for one year and is then returned by the holder. The previous recipients of this honour have been the Rev. G. H. Engleheart, Mr. E. M. Crosfield, Mr. P. D. Williams and Mrs. R. O. Backhouse.) His small but choice non-competitive exhibits have always attracted much attention both at Birmingham and in London. The high-water mark of his endeavours was reached last year when he won the Bourne Cup at Birmingham. I feel sure all who know Mr. Walter Ware will join me in

FRITILLARIA AUREA.

congratulating him upon the honour just conferred upon him, more particularly as he is, and has been for a good many months, an invalid. It is the price he has had to pay for an unusually active and busy life, during which he has been in the thick of the Daffodil world both at home and in Holland, from the distant days when he found Ornatus near Paris and Queen of the West at Haarlem up to last year when he was able to produce a red-cupped giant incomparabilis of such outstanding merit as Fortune. "Walter," as his many friends affectionately call him, was, up to the time of his breakdown in the beginning of 1916, a fine example of a man with a *mens sana in corpore sano*. We all hope that his long rest will be beneficial, and that when Daffodil shows are again possible he will be able to be with us, keen, kindly and commanding, as of yore.

A COLUMN FOR THE CURIOUS

THE ANGULAR IN NATURE.—The enquiry as to the wherefore of "square stems" in various plants in the issue of March 31 proves a bent for abstract philosophy in the enquirer which at one time distinguished gardeners as a class, if it does not to-day. The query refers to a basic principle of horticulture, therefore gives ample scope to review the creative origin of the subjects of the gardener's art. The poetic idea of the correspondent in question as to angularity bearing somehow on "misfortunes nobly borne" is beautiful, but not related to philosophic truth. Misfortunes which in the human subject educe angularity "are not nobly borne," and the plant is the prototype of man and his predecessor in creation order. It must have been noticed that in herbs and numerous herbaceous plants angular stems are very frequently met with. In shrubs or trees angularity of stem is frequently seen in the young growth, while it disappears with development. The Winter Jessamine, quoted by the correspondent referred to, is a case in point. The angularity is not found in the mature stems. Angularity is thus imperfect development; Nature's expression of beauty in form is by the rotund and curved. If we trace this back through the geologic ages we will find, in so far as any data is available, that the Grass Fern and much herbaceous growth preceded the tree or shrub—how remote the first appearance of plants is hardly conceivable, but the evolution of the beautiful in Nature from the angular can readily be traced. The most archaic tree on earth is generally believed to be the Salisburia. Its leaves still retain the primitive angularity of palæozoic ages, something like a child stunted in its growth. But the Salisburia otherwise has the usual rotundity. There are many other trees—Liquidambar and some Oaks, for instance—which show traces of angularity in their growth.

The enclosing of the seed in a soft envelope, rendering it what we call fruit, was a final concession of Nature to the law of beauty in form. Nuts preceded fruit in geologic order. The Acorn and Beechnut, for instance, are not the form of beauty a Peach is; they are more primitive. Probably no fruit shows more completely gradation from the angular than the Apple. Many Codlins are ribbed and quite primitive to a Pearmain or Pippin. When evolution arrived at the fruit and its line of beauty, then the first chapter of Genesis applied, not before. And if it is wrong to-day to cultivate anything for the sake of beauty only, as we are told, we are back to Genesis i., as it is chiefly economic. There are fruit trees mentioned there, but not coniferæ; they had been on earth countless ages before even a Nut was seen, and we cultivate them.

All this is of the greatest practical importance to the gardener. Without capacity for perception of the beautiful, the gardener must be condemned to long-life servitude in the kitchen garden or other departments devoted to soulless routine. In the cottager and allotment holder we can see anywhere and everywhere the instinct of beauty inherent in man struggling to assert itself in the life crushed with toil and care. It may be just a path made to curve, a group of homely flowers showing up otherwise in monotonous line, but there it is, the precious sense of beauty redeeming human life. In the plans of gardens given in THE GARDEN lately we see the same conflict of the beautiful with the uninspired economic, and the effort to get that beautiful within the soulless angularity of brick walls.—HURSTCOT.

Fritillaria aurea.—This plant is seen to the best advantage when planted in breadths on gentle slopes or raised borders, sowing the bulbs broadcast as one would do Peas. The plant is very hardy, and the bulbs should not be lifted to store. They attain a much larger size and flower in greater profusion when allowed to remain in the ground. It is an Asia Minor plant, and one of the most fascinating of all Fritillarias. It grows but a few inches high, and bears a solitary, pendulous, balloon-shaped flower from 1 inch to 2 inches across, golden yellow in colour, faintly netted on both surfaces with maroon tracery, but more heavily flecked maroon on the outside. The outer base of the flower is also flushed with the same colour. The bulbs are scarcely larger than a good-sized Pea, but they are wonderfully tenacious of life.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Lettuce.—Sowing little and often is a sure method of maintaining a regular supply of crisp Lettuce, even when the weather conditions are not favourable. Drought is the worst evil to fear during the early summer months. Watering the drills before sowing the seed ensures germination; early thinning of the plants, too, is a step towards success. Those left 9 inches apart in the rows will grow quicker than newly planted ones from the thinnings, which will provide a succession.

Spinach.—The New Zealand variety, although, perhaps, not of the same quality as the ordinary summer variety, has its advantages during hot, dry weather, as it does not suffer from drought nearly so quickly. Sow seed in shallow drills at least 3 feet apart, thinning the plants to nearly a yard wide; then rampant growth is made, producing large, succulent leaves. If seeds were sown in gentle heat early in April, the plants will be ready for transplanting. Autumn-sown batches of the Prickly variety have stood the recent severe weather remarkably well, and the plants are now yielding full crops of succulent leaves.

Turnips.—Sow seed of Early Milan and Snowball in newly watered drills, covering the rows with short mown lawn grass as a preventive of Turnip fly. Plants coming through the soil from previous sowings should be dusted with soot, and the soil between the rows frequently stirred with the hoe.

Potatoes.—No time should be lost in planting the last batch of tubers. Plants showing through the soil will be encouraged in their growth if the soil about them is frequently stirred.

Peas.—Make successional sowings of maincrop sorts, and preferably those that grow at least 6 feet high where facilities exist to obtain suitable supports. As a rule, tall-growing sorts like Quite Content or Goldfinder give heavier crops of well-filled pods than short or even medium growing varieties. It is in the number of well-filled pods of high quality Peas that one variety excels another. Sowing the seed thinly is all-important; freedom to develop the haulm means extra pods and better Peas.

Celery.—From February-sown seed the plants will be ready to put out in quite shallow trenches, allowing 10 inches of space between the plants.

French Beans.—In a warm, sheltered site an early batch of seed can be sown if some slight protection can be afforded when the plants show above the soil.

Fruit Under Glass.

Vines.—Pay constant attention to all such details as early thinning of the crop and the berries from the bunches, also to the timely removal of lateral growth to avoid overcrowding, remembering that one fully matured leaf is of more service to the plant than half a dozen puny leaves.

Newly Planted Vines should have timely attention. See that the one shoot at the base is made secure by a stake to avoid an accidental breakage. Encourage freedom of growth by daily syringing the Vines to maintain a moist atmosphere, in conjunction with the early closing of the ventilators to utilise the warmth of the sun.

Melons.—Train the leader of each plant up the wires as a cordon. As a rule, ample side shoots are made to enable a full crop to be secured without stopping the plant at the point. Keep a moist atmosphere to encourage freedom of growth and immunity from red spider. Do not wet the collar of the plant too freely, which at times induces canker.

Peaches and Nectarines.—Disbud late varieties somewhat severely, where the growth is strong, to avoid overcrowding, which is a common fault among Peach-growers. Keep a sharp look-out for green fly or mildew, and adopt the usual remedies to check the progress of each pest.

Plants Under Glass.

Double Violets intended for flowering in the frames next autumn should be planted in the open in quite small pieces taken from the clumps flowered this season in frames. Keep the newly planted roots freely watered until they are established. Afterwards frequently stir the soil about the plants to encourage freedom of growth

Crotons recently "rung" will now require to be taken off and potted, placing them in a frame until they are rooting freely.

E. Molyneux.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seed-Beds.—Examine all seed-beds carefully, and if there is evidence of failure, sow again at once, as seeds sown now germinate quickly and readily make good the time lost. Resowing will have to be resorted to in many instances this year.

THE AMERICAN WILD PINK SILENE PENNSYLVANICA.

Herbs.—Owing to the increasing demands for garden products in these times, herbs are again coming into favour for the concoction of the various dishes recommended as substitutes for scarcer foods. It is not too late to increase the stock of such sorts as Mint, Sage, Thyme, Hyssop, &c., by offsets or division of the roots. If done during showery weather they start away freely and make good plants before late summer. Other herbs, such as Fennel, Basil, Marjoram, &c., may be raised from seed sown in the open. Undoubtedly the culture of herbs has been neglected in recent years, largely owing to the many concentrated flavourings which could so easily be procured and kept in a cupboard for convenience. Years ago the herb border was one of the most treasured in the garden, and it is pleasing to think that the old order in this instance may again reign.

Broad Beans.—A late sowing may be made at this time, so that nice fresh pods may be picked during the autumn months. Choose any well-known maincrop variety and sow in the manner recommended in previous notes.

Salads.—If constant supplies of Mustard and Cress are wanted, sowings should be made weekly so that nice fresh supplies may be had. Do not sow in a sunny aspect, as this gives tougher, less juicy material than when the plants are grown in a slightly shaded position. Attend also to the regular sowing of Radishes. Lettuce should also be sown and pricked out regularly, utilising frames that may have been cleared of bedding material.

The Hardy Fruit Garden.

Strawberries.—Considering the high position the Strawberry holds among hardy fruits, cultivators should give it their best attention. Remove all flower-trusses from young plantations as they appear, and keep the surface of the ground between the rows open by regular stirring with the Dutch hoe. Older plantations should be mulched with good strawy litter, taking care not to damage either the foliage or the flowers during the process.

Peaches.—Attend to the disbudding of these where necessary, doing it by degrees, rubbing the buds off daily until the work is completed. Keep a watchful eye for Peach blister, and apply a reliable preparation so that it may be kept in check. Syringe with the garden engine regularly should green or black fly make its appearance. Where the trees are in flower, protective material should be hung in front of them, as the cold spells experienced during this month often prove disastrous to the outdoor crop.

Plants Under Glass.

Begonia weltonensis.—Rooted cuttings of this graceful Begonia will now be potted on, and as they make quick growth, handsome plants will be obtained by the end of the summer. It is most effective for conservatory decoration, its light, graceful habit being much admired. It is a pleasing change, too, from the tuberous-rooted sorts, as it can be grown to succeed them for autumn flowering.

Gloxinias.—Further lots of these will now be moved into their flowering pots. Keep in a brisk atmosphere until root action commences, afterwards transferring them to cooler quarters. Let the compost consist largely of leaf-mould, sand and peat.

Pot Roses that have been forced should now be plunged in ashes in the frame ground. Pick off all flower-buds as they appear, and, to encourage strong growth for next year's flowering, copious applications of liquid manure should be given.

Sweet Peas.—The ground for the planting out of these will have been in readiness for some time, and to get handsome blooms it is essential for the plants to be well grown. Do not plant too closely, and place supports to the plants immediately they are put out. If planted out in clumps, they should be so arranged that each colour gives increased value to that of its neighbour.

Gypsophilas are now almost considered among the necessities of the garden, so far as cutting for decorative purposes is concerned. The annual variety grows readily from sowings made in the open, but the perennial kind should be sown under glass and wintered in frames, planting them out the following April.

Coodham, Kilmarnock. James McGran.

SILENE PENNSYLVANICA

The "American Wild Pink," though known to cultivators for a century or more, is by no means common even in good collections of alpine plants to-day; hence one welcomed all the more some splendidly flowered examples of it brought recently to one of the meetings of the Royal Horticultural Society by Messrs. Whitelegg and Co., Chislehurst. One of these is so admirably portrayed in the accompanying illustration that little need be said as to the leaf or flower characteristics. It may be said, however, that the flowers vary from purplish rose to rose pink; in some specimens a much lighter tone prevails, and all are beautiful.

Growing 6 inches or 8 inches high, it ranks to-day among rock garden rarities; one so good and choice, indeed, as to merit general cultivation. In its North American home it is said to favour sandy, rocky, or gravelly places, though past experiences of it go to prove that these are not essential, and that it will grow quite well in deep, gritty loam. It is easily raised from seeds, but by no means easy to increase otherwise. The slug is a great pest to the choicer Silenes, and as this ornamental kind is no exception, cultivators should ever be on their guard. E. H. Jenkins.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

NARROW-LEAVED LUNGWORT (*E. P. D.*).—We take it that Pulmonaria angustifolia azurea is the plant meant. Its flowers are of an intense gentian blue and appear in April. The plant when established is about a foot high, and though dwarf is most vigorous, hardy and free-flowering. It does quite well in ordinary garden soils, not objecting to those of a chalky nature. The plant is quite cheap, and may be had from Messrs. R. Tucker and Sons, Brookside Nurseries, Oxford. If planted at once, a good flowering would result next year.

FRUIT GARDEN.

LATE VINES NOT STARTING INTO GROWTH FREELY (*Anxious*).—We much fear the peeling of the bark has been too severe, and so arrested the flow of sap. It is a mistaken practice to peel the bark of Vines. We thought it was obsolete. The best thing you can do in the circumstances is to keep the atmosphere of the vinery moist and fairly close, with moderate heat, in order to try to induce a freer break in the Vines; also encourage surface roots by adding fresh turf and bone-manure as a top-dressing. If the Vines do not break freely, encourage the growth of new shoots from the base of the Vines to take the place of the old stems in case they fail.

OBITUARY

CAPTAIN DOUGLAS CUTBUSH.

CAPTAIN DOUGLAS CUTBUSH of the 5th Middlesex Regiment, and the elder son of Mr. W. H. and Mrs. Cutbush of the Barnet Nurseries, has paid the supreme sacrifice in the cause of humanity. He was educated at Bognor and Tonbridge, and spent some time of his brief career in the bulb fields of Holland. For "great courage and ability under heavy gunfire" he was awarded the Military Cross last autumn, and he had been wounded in the thigh in the preceding January. This brave and able officer attained his majority last March. He was killed in action on April 10

LIEUTENANT A. LESLIE HOLLAND

THE sympathies of all rosarians will go out to the President of the National Rose Society, Mr. Edward J. Holland, in the loss of his elder son, Second-Lieutenant A. Leslie Holland, Rifle Brigade, who fell in action on April 21. Educated at Marlborough, he received his commission last October, and went to the Front in December. The Colonel of his regiment, in a letter to his father, says: "Your son behaved in a most gallant manner, and the success of the day was in a great part due to his courage and ability." The Rose Leslie Holland was named after him.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held on May 8 was full of interest and variety, all departments being well represented. Narcissi, however, were in strong force. Roses were in perfection, and rarely have these popular flowers been better shown. Auriculas, too, were interesting and beautiful and contributed not a little to a good meeting; while the collection of vegetables from Messrs. Sutton was perhaps one of the chief attractions of a good exhibition.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. J. Green, W. J. Bean, G. Reuthe, G. Harrow, R. C. Notcutt, Sydney Morris, H. Cowley, W. Howe, J. Heal, T. Stevenson, Clarence Elliott, R. Hooper Pearson, C. Dixon, J. Dickson, A. Turner, C. E. Shea, C. E. Pearson, W. Cuthbertson, E. H. Jenkins and A. J. Jackman.

Messrs. William Paul and Son, Waltham Cross, contributed a delightful group of their new Scarlet Climber, which, without doubt, is one of the most brilliantly coloured Roses yet raised. Free also in flowering, it is a Rose to be grown by all.

Mr. George Kerswell, Exeter, showed a delightful lot of blooms of Gentiana acaulis, rich and good in colour.

Mr. G. Reuthe, Keston, showed many beautiful and interesting plants, Viburnum Carlesii, whose fragrant white clusters are a great charm; Primula Juliæ, very rich in colour; Rhodothamnus Chamæcistus, pinkish salver-shaped flowers; and R. oleifolium, like a richly coloured R. racemosum, being some of the more prominent. Alpines were in charming array, Ranunculus rutæfolius and Matthiola Valesiana being noted. A brilliant lot of Rhododendron species with Calypso borealis (rosy red) were also shown.

Messrs. H. B. May and Sons, Edmonton, contributed Ferns in variety, both hardy and exotic, together with Begonia Rex and a variety of Hippeastrums, which made a good display.

Messrs. Stuart Low and Co., Enfield, arranged excellent stands of Carnations, Red Ensign being one of the most telling. British Triumph, Countess of Wilton, Carola, Mrs. Myles Kennedy and Mephisto, the last two of the Perpetual Malmaison class, were very good. In a group of New Holland Plants, Acacias, Chorizema cordata splendens, Boronias and Eriostemons were noted. Rhododendron Veitchianum was also good.

Carnations from Messrs. Allwood Brothers were excellent, Bishton Wonder, full of beauty and fragrance, being splendid. Mary Allwood, Salmon Enchantress, Rosalind (yellow-ground fancy) and Highland Lassie (white ground) were also prominent among many.

Mr. J. C. Allgrove, Middle Green, Langley, Slough, contributed a delightful lot of alpine Auriculas, notably Edith Winn, Majestic, Firefly, Duke of York, Argus, Phyllis Douglas and Dean Hole. Of show varieties, Lady Veitch, Henry Wilson, Heather Bell, Mrs. Henwood, Buttercup and Wild Swan were the best; George Lightbody was also good. A group of Omphalodes cappadocica and Primrose Evelyn Arkwright was very fine.

Mr. J. C. Jenner, Rayleigh, showed good Carnations, Aviator (rich scarlet), White Enchantress, Triumph, Yellowstone, Carola and Satin Robe being prominent.

In a group of alpine plants and shrubs, Messrs. William Cutbush and Sons, Highgate, arranged a big lot of Primula cortusoides, very bright and effective in colour. Iris filifolia, I. pumila varieties and others were also noted. Forsythias and Azalea mollis were very beautiful.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, had an extensive exhibit of early hardy flowers inclusive of Crown Imperials, Violas, Polyanthuses, Primroses, Muscari Heavenly Blue and much besides.

MESSRS. S. LOW AND CO.'S CYCLAMEN CHERRY RIPE.

A brilliant variety with deep cerise flowers. Award of Merit.

Beautiful Roses were contributed by Mr. G. Prince, Oxford, Flame of Fire, Yellow Banksian, Red Copper Briar, Climbing Richmond and the pillar Rose Florence H. Veitch being notable sorts.

A fine strain of Schizanthus—Dr. Badger's hybrids—were shown by Messrs. Dobbie and Co., Edinburgh. Sown on February 3 last, the strain, while of a high class order throughout, contained much variety, the flowers being very large.

Messrs. Piper, Barnes and Bayswater, showed flowering shrubs, Clematises and Roses. Of the latter, Rosa Hugonis (single yellow) was very beautiful. Clematis Nellie Moser, C. Lady Londesborough and C. Sir Garnet Wolseley were good.

The Misses Hopkins, Shepperton-on-Thames, showed an interesting group of hardy flowers in variety.

Messrs. Frank Cant and Co., Colchester, contributed standard and cluster Roses, Grace, a Wichuraiana seedling, being very pretty. Mme. E. Herriot, Rosabelle Walker, Hugh Dickson (both fine reds), Cynthia Forde (good pink) and Golden Ray (Wichuraiana) were also good.

Messrs. R. Tucker and Sons, Oxford, showed many beautiful alpines, Geum reptans, Asperula suberosa, Primula The General, Daphne rupestris, Fritillaries, Douglasia prætutiana (golden), D. Vitaliana (yellow), Ranunculus bilobus and Viburnum Carlesii being good.

Messrs. Wallace and Co., Colchester, showed Tulipa Clusiana in a goodly group, also hybrid Irises of the orchioides set, the new Primulas chionantha and sinopurpurea, Chinese species, being shown for the first time.

Mr. Charles Turner, Slough, had a few lovely Auriculas, notably Mikado (a rich dark self), Edith (a rose alpine), and Golden Gem, with many yellow seedlings.

Messrs. J. Cheal and Sons, Crawley, showed alpines together with Roses and Rhododendrons.

A brilliant lot of Zonal Pelargoniums were exhibited by Messrs. Cannell and Sons, Eynsford, Louis Chauvin, Maxime Kovalevsky (scarlet), Mrs. Ewing, Salmon Crampel and Crimson Crampel being noted. Rival, a new Cactus variety, is very distinct and beautiful. It is of salmon rose colour and very charming.

Messrs. B. R. Cant and Sons, Colchester, contributed some lovely Roses, Goldfinch, Rose du Barri, Fortune's Yellow, Golden Ophelia, Sallie (flesh) and American Pillar being noted. A brilliant red seedling Hybrid Tea is of much promise.

Calceolarias of the herbaceous set, together with a series of hybrid forms, were shown by Mr. Mond, Sandridge, Sevenoaks (gardener, Mr. Hall). None of the hybrids was named.

An exhibit of hybrid alpine Primulas from Mr. Clarence Elliott was most interesting, variety and beauty being embraced in a small lot.

The Roses from Mr. Elisha J. Hicks, Twyford, were quite a feast, the variety being remarkable. Quite the best was the gold medal Hybrid Tea of last year—Charles E. Shea. It is strong in fragrance and rich in colour. Climbing Hillingdon, Joanna Bridge, Queen of the Belgians, Mrs. George Norwood, Princess Mary and Sonning Dean (a fragrant white cluster) were excellent. Rosa Moyesii Brilliant was very fine. The blooms in boxes were also very good. A silver-gilt Banksian medal was awarded.

Mr. James Douglas, Great Bookham, contributed very good Auriculas, notably Canary Bird, Duke of York, Gordon Douglas, A. Barker (green edge), Dean Hole, Harrison Weir, Muriel, Admiration and Prince Charming. Silver Banksian medal.

FRUIT AND VEGETABLE COMMITTEE.

Present: J. Cheal, Esq. (chairman), the Rev. W. Wilks and Messrs. E. A. Bunyard, P. D. Tuckett, J. C. Allgrove, E. Harriss, G. P. Berry, A. Bullock, P. C. M. Veitch, John Harrison, W. H. Divers and W. Bates.

Messrs. Sutton and Sons, Reading, contributed a superb collection of vegetables, showing them in their usual high-class style. In all twenty-six dishes were staged, these including Potatoes May Queen and Ringleader, Broccoli Snow White and Satisfaction (model examples), Vegetable Marrows Green Bush and White Bush, Cabbages Harbinger and April, Lettuces Golden Ball, Ideal and White Heart, French Beans Tender and True and Masterpiece, Seakale, Chicory, Perfection Asparagus, Mushroom Twentieth Century, with Rhubarb, Spinach Beet and Cucumbers. All were in perfect condition, and while showing the great variety available at this early date, demonstrated what is possible in the exceptional circumstances in which we are placed. A silver-gilt Knightian medal was deservedly awarded.

Messrs. Dobbie and Co., Edinburgh, showed a dozen baskets of Potatoes, for which a silver Banksian medal was awarded. Sir J. Llewelyn, Arran Chief, King Edward VII., Dobbie's Favourite, British Queen, The Factor, Great Scot, Up-to-Date, Dobbie's Prolific and Village Blacksmith were some of the best.

NARCISSUS COMMITTEE.

Present: E. A. Bowles, Esq. (chairman), Miss Ellen Willmott, the Rev. J. Jacob, and Messrs. W. Poupart, J. Duncan Pearson, W. F. M. Copeland, J. T. Bennett-Poë, F. Herbert Chapman, Herbert Smith, R. W. Wallace, H. Backhouse, W. B. Cranfield, G. E. Backhouse, G. W. Leak, P. R. Barr and George Monro, jun.

Messrs. J. R. Pearson and Sons, Lowdham, showed very fine Narcissi, including Erin, Mrs. Robert Sydenham, Alice Knights, Potentate (yellow trumpet), Evangeline, Mrs. Wolseley and Scarlet Eye.

Mr. G. Churcher, Alverstone, Hants, contributed Torso, Crimson Braid, Czarina, Yellow Poppy, Red Beacon, Ruby, Inglescombe and Araby (a Jonquil hybrid) among many good things.

The most extensive exhibit of Narcissi was that from Messrs. Barr and Sons, Covent Garden, the finer things including Yellow Prince, George Philip Haydon, Royal Lady, Queen of Dawn, Caedmon (Poeticus), Red Beacon, Steadfast and others. Challenger was very fine.

A small collection was shown by Mr. C. A. Jardine, Balham.

Delightful Narcissi were shown by Mr. Martin H. Sutton, Erlegh Park, Reading, Mont d'Or (golden trumpet) and White Colossus being prominent among them.

An extensive exhibit from Messrs. R. H. Bath, Wisbech, included Buttercup (a Jonquil hybrid), Hypatia, White Knight, White Slave, Inglescombe, Sarabande (a white Poeticus), King Alfred and the semi-double Coronation.

Mr. F. Herbert Chapman, Rye, showed some beautiful Narcissi, Vintage, Crimson Braid (a fine Poeticus), Diamond Pendant, White Hart, Bombardier (golden trumpet) and Statuesque being some of the best. Alabaster, a triandrus hybrid, was very fine.

ORCHID COMMITTEE.

Present: Sir H. J. Veitch (chairman), and Messrs. J. O'Brien, W. Bolton, Gurney Wilson, R. Brooman White, Walter Cobb, C. J. Lucas, W. H. Hatcher, J. Charlesworth, J. E. Shill, T. Armstrong, Pantia Ralli, F. J. Hanbury, Stuart H. Low, R. A. Rolfe and J. Wilson Potter.

Mr. C. F. Waters, Balcombe, showed many fine Dendrobiums, D. nobile virginale, D. n. nobilius and D. Perfection being among the best.

Messrs. Armstrong and Brown, Tunbridge Wells, showed a lovely example, with fourteen flowers, of Cattleya Skinneri alba; Lælio-Cattleya Canhamiana splendens, Miltonia Venus variety, Odontoglossum President Wilson (which gained a preliminary certificate), Miltonia G. D. Owen and Odontoglossum Rex exquisitum. Brasso-Cattleya Shilliana was also very fine. A silver Flora medal was awarded.

In a group from Messrs. Charlesworth, Odontiodas and Brasso-Cattleyas were prominent; while in that from Messrs. Sander and Sons, St. Albans, Lælio-Cattleya Gold Crest and Vanda suavis were the more prominent things

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

ALTHOUGH the number of poultry-keepers in these isles easily runs into six figures, I doubt if, outside those interested in *general* farming, a dozen grow crops especially for their poultry. I propose, therefore, to write a series of articles dealing with suitable crops, and hope that my notes will be of help to my readers.

Systems Compared.—In the past the British poultry-farmer has installed the small-house-and-small-flock system, and it is only in recent years that he has given his attention to the intensive methods of keeping fowls. I have, as readers will remember, already dealt with the pros and cons of the old and new types of housing, and the matter again comes up for discussion in connection with the home-growing of poultry foods. Under the old *régime* the poultry-farmer fitted out his five or seven acres with small houses and small enclosures at the rate of a hundred birds per acre, and no space was available for the cultivation of crops. With the intensive system coming into popularity, the question has a different prospect, because one can keep 400 birds on each acre of ground under this more progressive plan of accommodation. Previously the poultry farm of seven acres accommodated about 500 or 600 birds, an acre being reserved for chicken-rearing operations. There was not room even for extensions in the majority of cases. If under intensive poultry culture the owner can accommodate his 500 or 600 head of adults and also his chickens on about two and a half acres, he has no less than four and a half acres to spare for cropping.

American Poultry Farms.—Across the Atlantic the poultry business is run on different lines to what it is here. There are only two classes of poultry-culturists. With the one, small intensive plants are popular; and with the other, extensive intensive henneries. Both sections aim at producing the greatest volume of "egg-fruit" on the least amount of ground-space. Intensive methods are adopted almost exclusively, and while the largest concerns are run on commercial lines even to the extent of paying dividends to shareholders, the smaller plants are conducted also on a business scale. The small *hobbyist* poultry-keeper is almost a negative quantity, and the backyarder, who is in the majority in this country, is not in evidence in the States. Everyone cultivates crops of some kind or another for the head of poultry stock kept, and while the fowls greatly appreciate the food grown for them, the owner is able to lighten his bill of costs.

Alfalfa and Beets.—Two crops that stand out from the rest, perhaps, are alfalfa (known here as lucerne) and beets. Every poultry-farmer reserves a given number of acres for the growing of lucerne, which has an excellent egg-producing analysis. It is very economical, since from three to six cuttings can be taken during the season from one planting and succulent green-food is available continuously. There are two forms in which the alfalfa or lucerne can be fed, viz., green and dry. In the latter condition it is either cut into short lengths or made into a fine meal and then used as an ingredient of the soft food. Clover can be treated in the same way. As regards beets, mangel-wurzels are extensively grown. The practice is to cut the tops from the growing mangels and feed them *green* at once. The roots are left in the ground until such time that they are gathered in, when, after a few days of curing, they are stored for winter use in beds of earth and straw.

Arranging Alternate Runs.—When dealing fully with the intensive system in earlier articles, readers will remember that I dealt with the plan of alternate runs. I suggested placing the intensive house in the centre of four wire-netting enclosures, the idea being to crop three of the runs while the fowls occupied the fourth, and to let the birds follow the crops round. There are several ways of arranging alternate runs whereby the owner can grow green-food for his poultry. There can, for instance, be a wired-in enclosure in front of the house on the south side and a second in the rear on the north side. While one run is down with a crop the fowls have the use of the other. Another method is to have four runs to each house, and the poultry-keeper can either plant three of the enclosures while the fowls occupy the fourth, or crop two of them while the birds have the use of the remaining two. Food can be grown on outside ground, of course, but where the enclosures are made use of, the soil is kept nice and sweet and the extra labour necessary for harvesting the green-food is saved.

Home-Grown Green-Food.—Care must be taken in the selection of the greenery to grow, and for the guidance of readers I give a table showing one system of crop rotation that is very extensively adopted in the States:

Date.	*Run* 1.	*Run* 2.
Mar.—April 30 ..	Peas and oats ..	Feeding
April 30—May 25	Feeding	Peas and barley
May 25—June 15	Dwarf Essex rape	Feeding
June 15—July 10	Feeding	Buckwheat & oats
July 10—Aug. 1	Buckwheat ..	Feeding
Aug. 1—Aug. 20	Feeding	Cow peas & millet
Aug. 20—Sept. 20	Rye, vetch, clover	Feeding
Sept. 20—Dec. 1	Feeding	Rye and vetch

Directly the crops are from 4 inches to 6 inches high the fowls are allowed access to them for feeding. The ground is ploughed twice a year, the seeds each time being sown broadcast and harrowed in to ensure strong and thick growth. Another plan of cropping very freely adopted is: *For early spring*—Canadian peas and oats, spring vetch and oats or barley; *summer*—buckwheat, soy beans or cow peas; *late autumn*—clover, winter vetch, winter rye or winter wheat. Where one planting only is made, Swiss chard or rape is recommended, since when the fowls have eaten off the crop it grows again from the crown. For outside planting lucerne and clover are invaluable.

Grow Sunflowers.—Sunflower seeds represent an excellent food for fowls, and it has always been a surprise to me why poultry-keepers do not grow them extensively. Sunflowers need plenty of manure during the period of growth, and the poultry-manure can be made full use of. The small-headed kinds are the best to grow, as fowls relish the small seeds better than the very large ones. The flowers are ornamental as well as useful, and all vacant spots should be planted. When sunflowers have made good growth they provide excellent shade for poultry, and they can be grown down the sides—but a little way from the netting—of the wired runs. Owing to the oily nature of the seeds the latter are invaluable during the autumnal moult, helping the fowls to cast their old plumage and to take on their new. In the winter, too, they are most useful on account of the oily fat they contain. Their analysis reads: Water, 8.6; ash, 2.6; albumen, 16.3; fibre, 29.9; carbohydrates, 21.4; fat, 21; which gives a ratio of one of albumen to four of carbohydrates. The value of the seeds can be judged by comparing the ratio with those of oats (1 to 6), wheat (1 to 6) and maize (1 to 8).

Feeding Sunflower Seeds.—The seeds can be fed to the fowls either whole or in the form of a meal. In the former case they are given with the grain-feed, and in the latter instance the seeds are ground and the meal used in the mash. When so given the seeds must be ripe, which necessitates the gathering of the heads before the seeds fall out. Another plan is to throw the heads into the litter and allow the birds to have the exercise and occupation in scratching for the food. Yet another way is to gather the heads before the seeds are ripe and, having placed both seeds and heads through a mincing machine, either boil and mix with the other ingredients of the mash or, before drying off the soft food, add the uncooked minced food to the prepared ingredients. The stems can be dried and used as scratching litter. The green leaves of sunflowers, if gathered young, can be finely minced and mixed with the soft food or given alone. They will provide a succulent green-food for both adults and young poultry stock, and have excellent medicinal properties.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*

Layers of Tinted Eggs.

FIRST-CROSSES have become very popular in recent years, but they must not be confused with mongrels. The former are the result of crossing one pure breed with another pure one, while many breeds are mingled in the latter. The crossing of a white-egg breed with a brown-egg variety will produce progeny which yield tinted or brownish eggs. In such first-crossing it is advisable to rely upon hens of the brown-egg or sitting breed to preserve the tinted characteristics of the egg, the males being of the non-sitting or white-egg varieties. For instance, to White Wyandotte hens—layers of brown eggs—we mate a White Leghorn cockerel, and so on. To maintain such a first-cross we mate a White Wyandotte male to the progeny the second year and bring in a White Leghorn cockerel the next season, afterwards repeating the plan year after year.

* * *

Medicinal Eggs.

FEEDING has great influence on the quality of the contents of an egg. The yolk, for instance, can be richened in colour by the provision of ample green-food. One poultry-keeper, realising the importance of feed, specialises in the production of medicinal eggs for convalescents. His birds are provided with ample green-food—lettuce, for choice—and every other day each hen receives a quarter of an ounce of onion. In addition, the following ingredients are mixed in the soft food, the amounts mentioned being for every twelve birds: A saltspoonful of sulphur every third day, a small pinch of gentian root every other day, and a quarter of an ounce of quinine twice a week. The object is to make the hens transfer the ingredients to the eggs they lay. Onions, as is well known, contain magnesia, iron and other medicinal properties, while gentian and quinine are tonics.

* * *

Interior of an Egg.

STARTING from the outside of an egg, we first have the shell and then two membranes or skins, styled outer and inner, respectively. The second or inner membrane forms the outline to the air-space or air-cell. Next come two layers of thin albumen or white, and then a layer of thick albumen. The latter supports the chalaza on each side of the yolk. The yolk comes next, and at each end is a chord-like chalaza, which acts as a buffer to prevent the yolk from coming to harm against the outer shell. The chalazæ form, as it were, a kind of hammock for the yolk, which can therein swing freely to and fro. The germ (blastoderm) is in the yolk, near the top and a little to the left of the centre. This spot always floats uppermost, no matter at what angle the egg is held. By this arrangement it receives most heat from the broody hen's body.

* * *

Craze for Brown Eggs.

AT one time the craze for brown-shelled eggs was so great with the buying public that they refused to purchase white-shelled ones from the shopkeepers. This prejudice has more or less departed, and I am glad to find it so, since there is no difference whatever in value between the contents of a brown egg and those of a white-shelled one. In America the public insists on the white egg and swears by the yellow-fleshed fowl for table purposes, whereas we favour the white-fleshed table chicken. I am afraid many buy as brown-shelled eggs some that were white prior to their being dipped in coffee or in water lightly coloured with a few flakes of permanganate of potash.

PRACTICAL POULTRY POINTERS

FEEDING

Feed grain in the litter of the scratching-shed to promote exercise.

* * *

Do not throw food on the grass, or the fowls in continual scratching will wear down the grass and make the enclosure unsightly.

* * *

Scorched grain makes a useful change. Place the grain on a shovel over the fire and allow it to darken.

* * *

When giving roots, such as swedes and turnips, drive a long nail through each into a heavy piece of wood. The fowls can then easily peck out the centre of the root.

* * *

Vinegar—just a spoonful—given at night to a table chicken about to be killed will render the flesh white and tender.

* * *

Boiled stinging nettles are excellent for poultry of all ages, possessing medicinal properties.

EGGS

The theory that long eggs contain cockerels and round ones pullets has long since exploded.

* * *

The sex of an egg depends upon the season of the year and the condition of the parent stock.

* * *

If an egg is rather watery, there is a deficiency of albuminoids in the food supplied. Increase the meat rations.

* * *

Special eggs can be accommodated in muslin bags inside the incubator, or sectioned off by wire-netting partitions.

* * *

Twenty large eggs are superior to forty *small* unsaleable ones. Breed from layers of large eggs!

* * *

Set eggs preferably from the best winter layers.

* * *

Cockerels hatched from rich-coloured eggs are strongly recommended to head the breeding pens.

HOUSING

Perches should be placed at the same height; otherwise there will be quarrelling for the highest one.

* * *

A drop-board should be fitted underneath the perches to catch the droppings and facilitate cleaning operations.

* * *

Well air the poultry-house during the daytime.

* * *

Combined scratching and roosting houses are considered on a par with intensive houses, accommodation being measured by *ground-space.*

* * *

Paraffin swims on the top when used in lime-wash. To prevent this, mix the former with an equal quantity of boiled milk.

* * *

Low perches are advisable, as a "long drop" is harmful to laying stock.

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Strong Transplanted Plants.—Asters, best double and single. Stocks, large double, ten weeks. Ageratum, blue or mauve. Lobelia, red, white or blue. Nemesia. Salpiglossis. Schizanthus. Sweet Peas. Sweet Williams. Zinnias. 20 for 1/-.

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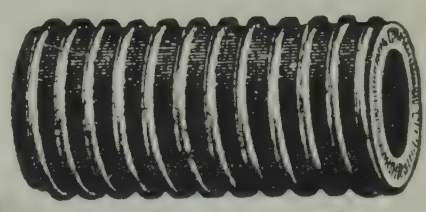
GARDEN HOSE



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½×3 ,,	6 ,,	25/6

PLAIN HOSE.	Cut Lengths.	60 feet Lengths
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Magnificent varieties for garden ; nearly all Gold Medal winners flower continuously the whole season. The Roses are of great substance, with remarkably long, handsome buds and shell-petalled flowers of most exquisite soft shades and distinct tea-like fragrance. 3 for **2/6** ; 6 for **4/-** ; 12 for **7/6**; 25 for **12/6**; 50 for **22/6** 100 **40/-**.

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A grand new Rose, rich, deep citron yellow, becoming deeper as the flowers expand—a colour that does not fade ; the blooms are large, full, and of perfect form, with high-pointed centre, and are deliciously fragrant ; the plant is a vigorous, erect grower, free and continuous in bloom ; one of the finest of the new Roses. 3 for **2/6** ; 6 for **4/-** ; 12 for **7/6.**

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VERY SPECIAL OFFER of Giant-flowering Hybrid Perpetual Roses. My selection, drawn from very best varieties where I have a surplus. Will transplant splendidly now, every tree having a mass of fibrous roots, and every one flowered all last season. A magnificent range of colour, from pure white to rich crimson. These will make any garden a blaze of colour. 6, all different, for **3/-** ; 12 for **5/6**; 25 for **10/-** ; 50 for **18/6**. Packed free and carriage paid. This is a bargain price so long as stock lasts, as many of these Roses are worth from 1s. to 2s. each.

GREAT BARGAINS IN LOVELY CLIMBING ROSES.

A wonderful offer ; half price. Having a grand stock of Climbing and Rambling Roses, all grand trees, in splendid condition ; no need for bare walls, ugly places, arches and trellises not covered, etc. Plant these freely, they will flower in the wildest profusion anywhere and everywhere. 6 for **3/-** ; 12 for **5/-**. No more at the bargain price when these are cleared.

DAINTY BABY ROSES OR THE NEW TOM THUMB.

Have a bed of these for a change ; you will have such a mass of blossom you never had before. Superb as a bedding Rose ; can also be used for Edging or Pots. The sensational new Dwarf ROSE MDME. NORBERT LEVAVASSEUR.—As a pot Rose for greenhouse or window it has no equal, for beds and borders it is simply a mass of crimson the whole of the season, producing such a grand, telling effect that once seen it is not readily forgotten ; it is very hardy, and will thrive in the poorest soil. Only grows about 1ft. high, and blooms so profusely as to entirely hide the foliage. The foliage is of a beautifully deep glossy green, and is never attacked by disease. It flowers in large clusters from June to November. It is always in bloom. This Rose will prove invaluable for bedding purposes and pot culture. It has already obtained the five following Prizes, viz. :—Paris Exhibition (May)—Large Silver Medal ; Paris Exhibition (November)—1st Class Certificate of Merit by the National Horticultural Society of France ; London (April)—1st Class Certificate of Merit, R.H.S. of London ; London (June)—1st Class Certificate of Merit, National Rose Society ; Orleans (August)—Gold Medal, highest award, with congratulations from the Judges. Now offered by me in four lovely colours—rich crimson, snow-white, geranium-red, and Dorothy Perkins pink. All the same price ; 4 for **3/-** ; 8 for **5/-** ; 12 for **7/6.** May be had all one colour or mixed, as desired.

MAGNIFICENT LILIES.

The brush cannot paint, or the pen portray the exquisite purity and delicacy, yet magnificent grandeur of the stately Lily. It is the ne plus ultra of floral beauty, and I urge my friends to each year add a few Lilies to their collection. No other flower will so adorn our homes when in bloom, and they constantly improve after planting. As a rule, Lilies are of the easiest cultivation, especially the beautiful Longiflorum, succeeding equally well in the garden or greenhouse, sun or shade ; the eye drinks in its lovely tints with delight. To say that it is frosted, glistening white, deliciously fragrant, is to convey but a slight idea of its perfect loveliness. They are magnificent planted singly or in groups among Perennial and Herbaceous plants, amongst Shrubs and Rose trees they are always at home, and have a charming effect. Whole beds planted out on the lawn or in any odd nooks or corners is a sight not readily forgotten. Imagine these huge snowy trumpets, 10 to 12 inches long, pouring fragrance forth till the air is heavy with sweetness. A good bed of these Lilies often perfumes and is the talk of the whole neighbourhood. Most glorious as cut flowers for all classes of decorations. Never out of place.

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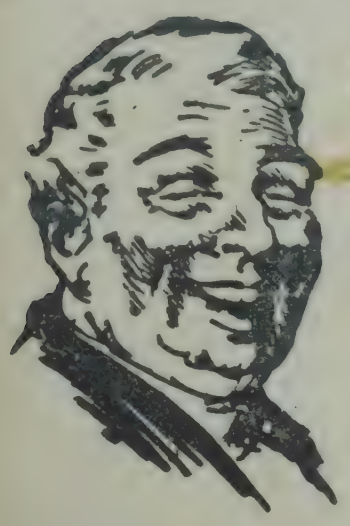

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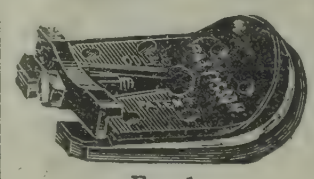

Fig. 1.

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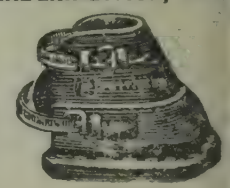

Fig. 2.

The Field says: **"As good as anything that could be devised."**
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FOR GARDEN, ORCHARD, WOODLAND
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VOL. LXXXI.—No. 2374. SATURDAY, MAY 19, 1917.

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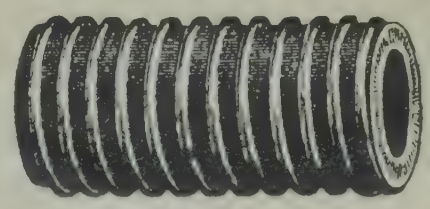

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THE GARDEN.

No. 2374.—Vol. LXXXI. May 19, 1917.

NOTES OF THE WEEK

IF there is one subject more than another that requires constant attention among growing crops it is the importance of hoeing or surface cultivation. The motto for every garden worker should be "Keep the hoe going." Every trained gardener knows the immense value of hoeing, particularly at this season; but as the result of recent visits to allotment gardens it is only too obvious that among the newer workers are many who prefer the watering-pot to the hoe. To such we commend to their notice the article on surface cultivation on page 176 of this issue.

Poisonous Rhubarb Leaves.—No one would attempt to prevent the substitution of one food for another if it is right and proper, but as the result of an inquest on a minister who was taken ill and died after eating Rhubarb tops, we are astounded to learn that the leaves had been prepared as a vegetable in place of Spinach according to a recipe entitled "War-time Tips" issued by the National Training School of Cookery. There are other cases of poisoning from Rhubarb leaves on record dating back for a number of years, and we should have thought that this would have been well known by this time. Of course, many people may have eaten the leaves without ill-effects, but it would not be advisable to do so again. It is well known in country districts that pigs will not eat Rhubarb leaves.

Intercropping and Catch Crops.—At the May meeting of the East Anglian Horticultural Club Mr. W. Shoesmith gave a practical paper on intercropping and catch crops. Lettuce, Radish and other salads lent themselves admirably to this form of gardening. Broad Beans could be grown in rows of Potatoes. Autumn Onions could be sown on new Strawberry plantations, and he advocated growing two varieties of Peas together.

Blanching Celery.—For all except the latest batches the blanching of Celery by the aid of brown paper has advantages over that of earthing up with soil. Amateurs do not appear to see the advantage gained by the use of paper. In the first place, the paper (stiff brown) when cut into strips 8 inches or 10 inches wide, is so easily wound round the sticks a sufficient number of thicknesses to fully exclude light, and made secure. Another strong point in its favour is the opportunity it gives of further stimulating the growth of the plants by the aid of liquid manure, which is impossible when once the first batch of soil has been put around the plants. The saving in time, too, of digging trenches is avoided, as plants on level ground succeed equally as well as those buried in trenches. From six to eight weeks should be allowed for blanching.

Peas in Trenches.—Some writers advocate the sowing of Peas in trenches prepared as for Celery, with 6 inches of manure at the bottom all tightly trodden down, with as much oil on the top for the Peas to grow in. This we regard as quite a wrong method of cultivation. The plants grow vigorously for a time, quickly rambling through the soil and manure, when, owing to the hard sides of the trench not being loosened, the roots cannot penetrate further, and are thus confined to the trench. Should a spell of dry weather set in, mildew is almost sure to attack the haulm, as the roots are confined in a limited space and quickly exhaust all the available moisture. Deeply trenched, heavily manured soil in the autumn, again forked over to obtain good tilth and an easy ramification condition for the roots, has much to recommend it, no matter whether the weather during the summer is favourable or not. In deeply dug soil the roots ramble away at will in quest of moisture, which is really food, and do not suffer nearly so much from a spell of dry weather.

Labrador Kale.—Mr. Edwin Beckett writes to say that this excellent Borecole has again proved its worth during the past severe winter season. Fortunately, he planted it fairly largely. It came through quite unharmed, is now giving an abundant crop, and will continue to do so during the present month. It is one of the most prolific vegetables to grow, coming in as it always does when other greens are scarce, and it is one of the most distinct and delicious flavoured of green vegetables. If seed is sown at once it will make good material for next spring.

Vegetable Seeds for Ruhleben Prisoners' Camp.—The following letter has been received by the Rev. W. Wilks from the Ruhleben Horticultural Society acknowledging a consignment of vegetable seeds recently sent to the Ruhleben Prisoners' Camp by the Royal Horticultural Society:

Ruhleben Horticultural Society,
Bar. 5, Box 13,
March 8, 1917.

Royal Horticultural Society, London.

Dear Sirs,—

Your consignment of vegetable and flower seeds sent through the Central Prisoners of War Committee has arrived here in good condition, and I wish to thank you, and through you the donors, for these acceptable gifts. You will be interested to know that our arrangements for the renting of the ground for the vegetable garden have been satisfactorily concluded, and that we hope very soon to commence trenching the ground, which, owing to very severe frost, we have not yet been able to do. In the meantime work continues in our nursery, where we already have a large stock of seedlings nearly ready for planting out.

Again accept our warmest thanks for your gifts.

Yours faithfully,
Ruhleben Horticultural Society.
(Signed) T. Howat, *Hon. Sec.*

Runner Beans Without Sticks.—With reference to the articles in this and recent issues on this subject, it may not be generally known that early pinching induces earlier Beans. Grown on sticks and allowed to run, the earliest flowers often fail to set; but grown on the flat and pinched as soon as the plants begin to run causes a check in growth which influences earlier development. Plenty of Kentish allotment holders grow their Runner Beans without sticks, and the crops produced are astounding. Of course, the pinching must be continued all through the season.

Staking Runner Beans With Old Sticks.—Owing to the high price which many have to pay for what are termed proper Bean sticks, in many quarters the temptation to make these do a second season is very great, and in sheltered spots nothing can be said against the practice; but readers whose kitchen gardens are exposed to strong gales should always endeavour to get new sticks each season, for by the time the sticks are well clothed with leaves and large clusters of Beans the weight is often too much for old sticks to carry, and some fine morning, following an unusually strong wind, the man who relies entirely upon last year's sticks finds his row of Beans in a horizontal instead of an upright position. When this happens he finds many of the plants killed outright, and others so badly injured as to considerably reduce their productive powers. A real good plan to be adopted by those who have no option in the matter of sticks will be to secure not only the tops of the sticks or poles to others run horizontally, but also run other sticks about 2 feet from the bottom, supporting these by means of stout new sticks every few yards. If the old sticks are made secure to these horizontal ones, little fear need be entertained of the crop blowing over.

The Runner Bean as a Winter Vegetable.—A good deal is being written in these days in praise of the Runner Bean, on the best methods of cultivation and as to the selection of varieties, and it well deserves all the attention that is being bestowed upon it. May we point out to the uninitiated among the many allotment holders that this choice vegetable can be had in good condition throughout the winter by preserving the pods in salt? Whenever there is a surplus over present requirements in summer or autumn, the pods should be picked while in good condition, that is, before they can be bent over without breaking them. A layer of salt should be placed in the bottom of a suitable-sized crock. Over the salt place a layer of pods, and repeat the operation till the pods are exhausted or the vessel is full. Finish off with a layer of salt. It is not necessary that the whole should be placed in the jar at one time. The pods should be steeped in fresh water for twenty-four hours before being cooked to extract the salt from them. We have hitherto only kept the stored Beans till about the end of the year. Last year, however, we had a bumper crop, and therefore stored a large quantity. The consequence was that the last of the crop was used on March 31, when the pods were as tender and succulent as on the day they were picked.

National Carnation and Picotee Society.—Mr. J. J. Keen has been appointed secretary and treasurer of the National Carnation and Picotee Society in the place of Mr. C. Henwood. All communications and subscriptions should be sent to Mr. Keen at 54, The Avenue, Southampton. The schedule of the forthcoming show to be held on July 18 at the Drill Hall will be ready shortly, and will be sent to the members in due course.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Cabbage Harbinger.—I cut my first spring Cabbage to-day (May 9), firm, compact, little heads of the above variety. For the season this date may, I think, be considered early, and they were most delicious eating. The seed was sown thinly in rows last August, and in October we thinned out the rows, transplanting the thinnings to another quarter and leaving the plants standing in the rows at intervals of about a foot or less. The plants left in the rows come in quite a fortnight, or perhaps three weeks, earlier than the transplanted ones, and make a most welcome early dish. This is the first season that I have tried this plan, and my thanks are due to my friend Mr. W. F. Giles of Messrs. Sutton and Sons for giving me this valuable hint, a hint by which your vegetable-growing readers cannot fail to benefit.—F. HERBERT CHAPMAN.

Cinematograph Pictures of Vegetable Growing. In last week's issue reference was made to the great teaching value of the pictures taken by the Topical Press Agency showing the cultivation of vegetables. The pictures were prepared at Wisley at the request of the Food Production Department, and are now to be shown in picture palaces throughout the country. A selection is here made of these pictures which are accompanied on the screen by well-chosen instructions, such as: "The art of digging—dig deep and vertically and with a clean spade." "Large seed Potatoes with a fair number of eyes may be halved before planting." "Plant Potatoes in trenches 2 feet apart and place the seed at intervals of 15 inches." If cinemas will show pictures of this kind, they may become an influence for good in the land.—X.

Large and Small Vegetables.—At the risk of being a bore, I write once again on this subject. Personally, having to cater for a household who are gourmet rather than gourmand, I am entirely in accord with Mrs. Earle. Then comes along "A. B. C.," who makes all our mouths water by a description of Mr. Beckett's large Leeks, prepared for table under Mrs. Beckett's supervision. But we have to bear in mind that *two* such experts are not found in one house among a thousand. I think really the main point to be aimed at is *speediness* of growth; therefore, for most of us, small and young vegetables are more to be desired than larger ones, and if we use them at an early stage we attain better table results and, especially as regards Vegetable Marrows and all the Pea and Bean tribe, we get a really *larger* return also than by waiting for them to grow larger. Moreover, small vegetables are easier to cook and serve. So my practical advice to the average gardener and cook is: Do not hesitate to use your vegetables small and young, for you will thus obtain better *table* results; and, after all, as I have had to remind more than one gardener, the chief aim and end of vegetables is *not* to adorn the garden nor to win prizes at shows, but to furnish palatable and abundant food for the household. I am practising what I preach, for to-day we are cutting some little Harbinger Cabbages, dainty, delicious little things which would go into a teacup. As they are cut thus early, their stumps will very soon give us an abundant second crop of sweet little "bunch greens," thus keeping up a continual supply of first-class flavoured Cabbage for the table for months.—ANNE AMATEUR.

The Judas Tree.—I note that your correspondents on page 161 agree in regarding this name as meaning "the Tree of Judæa," and perhaps they have some good reason for their assertion which is not apparent. Mr. Hemsley contents himself with an *obiter dictum*; Mr. Thompson cites Mr. Comerford Casey's "Riviera Nature Notes"—a book which, "charming" as it certainly is, contains wild speculations as to plant names (*e.g.*, as to Lady's Bedstraw) and cannot be regarded as an authority. The earliest citation of the name in the "Oxford English Dictionary" is dated 1668, but it appears in Gerard's "Herball" (1597), page 1,240, and was apparently invented by its author, who refers to the Judas legend as then current: "it *may be called* in English Iudas tree, whereon Iudas did hang himselfe, and not upon the Elder tree, as it is said"; it may be noted that Gerard makes no mention of its occurrence out of Europe. The German equivalent *Judasbaum* indicates the same connection; but I do not know of any earlier reference to the legend. Subsequent writers—*e.g.*, Prior—take it from Gerard, though without acknowledgment. If there is any reason for accepting the "Tree of Judæa" origin, it would be well to state it.—JAMES BRITTEN.

Leeks: Planting on the Level for Home Supplies.—Although during the winter months a dish of good Leeks rarely fails to find appreciation, we find these all too seldom grown by the suburban or middle-class amateur, and I am of opinion the chief reason why this is so is found in the fact that most writers or books on gardening lay much stress upon these being given the same generous treatment usually approved by those who grow first-class Celery. But for obvious reasons such trenches as these are quite beyond the province of the man having but a limited amount of spare time at his disposal, and although not underestimating the value of these trenches and the benefit of the large amount of plant food usually employed where gigantic Leeks are desired for exhibition, I have long satisfied myself that where only ordinary specimens for home consumption are required, these invariably follow where strong plants are put out from the early days of June until the end of the month on to land which has been deeply dug and no more manure added than it is usual to allow for other crops. Our soil is a very light one and Leeks are appreciated more than any other winter vegetable; yet each year the patch intended for these is dug over in March and the surface left rough until the time mentioned, when drills about 6 inches deep are drawn out about a foot apart. Into these the plants are dibbled, burying each very deeply and from 8 inches to 12 inches apart. One good watering is usually sufficient to give the plants a fair start, liquid manure being freely used from the middle of August until the end of October, at which date the soil between the rows is pricked up with a small fork and broken up very finely, this being afterwards drawn to the plants with the hoe, no further earthing being needed to secure Leeks of most serviceable size.—F. R. CASTLE.

Trapping Wireworm.—Sliced Carrots and Potatoes—the latter too much of a luxury now to admit of free use—as traps are of doubtful value, since the wireworm, despite the fact that it is not an educated being, seems to know by intuition which are the Potato traps and which are not, and acts accordingly. I tried the Potato-on-stick dodge till I was tired, and caught many more of the pest in the Potato tubers not intended for it than in the prepared bits that were. Of root vegetables as a trap, one cannot do better than try Beetroot. Birds—particularly green plovers, starlings, sparrows and robins—are a great help, the last named especially when rearing their young, inasmuch as then they fearlessly work alongside you and, as you turn the soil, snatch their prey before you have seen it. Much the most effectual trap for wireworms that I know is a young Chrysanthemum. Having lost a few thousands in that way—quite unintentionally, I admit—I speak with authority, not as a scribe. On land treated with a soil fumigant four times above the prescribed strength I planted young Chrysanthemums with a view to getting a crop of flowers later. Instead, I got one of wireworms, a dozen to a score on many plants. They seemed to swarm to them. That crop of Chrysanthemums did more to rid the ground of the pest than anything else. Hence I place young Chrysanthemums first, and the fork-and-robin dodge second. In an ordinary way exception may be taken to associating Potatoes and Chrysanthemums, but with an object in view it may be different. If, however, any wireworms are about, you may be sure of getting them, and equally sure that a crop of Chrysanthemums will not interfere with the Potatoes.—E. H. JENKINS.

1, MAKING A DRILL.

2, SOWING PEAS.

3, SEED POTATOES.

4, WRONG WAY TO PLANT.

5, PLANTING CABBAGE.

Silver-Leaf in Apple Trees.—From observation and experience I do not think silver-leaf disease has spread among Apple trees so fast as it promised to do two years ago. I need hardly say this is a boon if the exemption is general. A particular tree of Norfolk Beauty, grafted on Warner's King, was badly affected three years ago with silver-leaf disease. In March I applied 6lb. of crude sulphate of iron, in crystals, to the roots 6 inches under the surface soil, well working it in among them. The same year the early part of the young growth was similarly affected, but as progress was made in the leading shoots the leaves grew larger, the shoots were more robust (many reaching a yard in length) and densely green in colour, entirely losing all trace of the silver-leaf disease. Since then I have detected no sign on the leaves formed, an encouraging result.—E. M.

Intercrop!—Let me urge the importance of using every possible foot of ground, where it has been properly treated, for the production of vegetables. One can hardly draw a hard-and-fast line as to how far this may be practised, but I will enumerate a few ways by which this may be carried out, and which we are now using here. Cauliflowers planted in frames at the usual distance apart are intercropped with Celery. These should be nice plants when the Cauliflowers are cleared, and it is intended to use them for early supplies by blanching with brown paper. After the Cauliflowers are finished we shall again hope to use the space with either Carrots, Globe Beet or Lettuce. Radishes are also growing in the same pit. We are planting Celery in the alleys of our Asparagus-beds. This should do well there, and is easily blanched as before mentioned. Later on the growths of the Asparagus can easily be kept away from the Celery plants. Lettuce is being grown on Celery ridges; Radishes and Spinach between Peas, which will in their turn be followed by winter greens; Cauliflowers and Coleworts will be planted between rows of winter Onions; Leeks and winter greens between crops of early Cauliflowers, &c. There are many other similar devices which can be employed, these stated being only a few means of saving space.—EDWIN BECKETT, V.M.H., *Aldenham House Gardens, Elstree.*

Sowing Lettuce Seeds.—The possessor of a very small garden frequently resorts to unorthodox methods in order to obtain the best results. For instance, a practice which I have seen followed with success to keep up a lengthened supply of Lettuce is to sow the seed thinly, but broadcast, on a small piece of ground. Then, directly the plants are sufficiently advanced to form a salad ingredient, the largest are pulled from the bed, thus giving increased space for the more backward ones. In this way a spot only a yard square will furnish a constant supply for some time. Of course, the plants, being small, cannot be expected to have any heart; still, they yield a quantity of young, succulent leaves. For this purpose the small Cabbage varieties are the most suitable. It is very essential that the ground be well dug and manured in order to give the best results. It must also be in good tilth for the sowing of the seeds.—H. P.

Spraying the Potato.—A significant and important sentence concludes an editorial footnote on the above on page 150 of THE GARDEN. It runs thus "Remember that the object of spraying is to prevent rather than to cure the disease"; and if spraying were done with that object in view, hundreds of tons of valuable produce would probably be saved every year. Over and over again, when addressing meetings on vegetable growing, I have uttered similar words of warning. "Spraying," I have said, "should be adopted as a preventive measure—should, in fact, anticipate the disease if it is to be effective in keeping it at bay." Never was the need for this greater than in the coming season if a maximum crop of healthy tubers is to be raised from the thousands of new allotments which existing circumstances have called into being. Years ago the late George Massee warned all gardeners to "Watch and spray," and it might well be adopted as the watchword of every allotment holder at the present time. The presence or absence of the Potato disease is not a question of new or old soils; *it is climatic*, and, the conditions favourable to vegetating being present, its spread is so rapid that the disease, once started, can never be overtaken. Timely spraying, therefore, may not only keep the disease at bay, but by promoting a healthy growth in the plant for an extended period assist it materially to produce a maximum yield of serviceable produce.—E. H. JENKINS.

Artificial Manures for the Lawn.—These are sometimes useful in private gardens fertilised in the ordinary way with farmyard manure; but as a rule it is only phosphatic manures that can really be said to be at all necessary, unless for lawns. These are often—in fact, as a rule—starved in a deplorable manner, though, looking on grass as a crop, it needs fertility as much as any other, especially if it is allowed to go to seed, as many lawns will do if a hay crop is patriotically taken, for nothing exhausts grass more than seeding. The finer grasses soon die out if they are allowed to go to seed in their early years, so special care should be taken to cut in an early stage of flowering any lawn laid down within three or four years. Lawn grasses have shorter roots than field grasses, and so more restricted range for finding nourishment, and the increase of weeds and moss and Bent-grass is a sure sign of gradual impoverishment. A good manuring in winter will do much, especially with new lawns on poor ground, for young grass does not respond to artificials as old turf does. Sheep, again, may do good. But both are unsightly, and it is here where an artificial manuring is so useful. Sulphate of ammonia will make a good show of green, but Peruvian Guano (about 2oz. to a square yard) or bone-meal—better mixed, equally—are about the best, because they feed the ground slowly and thoroughly, mixed with good soil. Even these are mainly phosphatic, and as it is this class of manure which is mainly wanted on worn-out grass, superphosphate alone, which is cheaper, will do good, or slag on heavy ground. But if Clover is taboo, they should not be used.—G. T.

HYBRIDISATION OF THE APPLE

THE many varieties of Apple arranged by competitors at some of the first-rate autumn shows, especially at the October meeting of the Royal Horticultural Society, inspires the wish that about half of these varieties were eliminated, for, speaking truthfully, there are numerous varieties not wanted and which are a nuisance to the nurseryman, who keeps a stock out of sentiment to meet the demands of the few. Many varieties are neither of use nor ornament, although some have borne a card with the significant words "Award of Merit." It would have been better if they had been consigned to the rubbish heap, as many of these "record" crosses are absolutely deficient of the long-sought essential.

6, EARTHING UP.

7, SPRAYING TO PREVENT DISEASE.

8, LIFTING THE CROP.

From experience among hardy fruit and fruit growers I find the request is to supply varieties without a record cross, varieties with a history, but all else assumed, such as those commercially required in the market, viz., Blenheim Orange, Warner's King, Newton Wonder, Bramley's Seedling, Cox's Orange Pippin, Annie Elizabeth, Claygate Pearmain and many others, the whole of these being of a sort of guess character as regards parentage. Yet one and all are sought after; Nature's own output, I term them.

The hybridist has yet a long way to go and much to learn, as the tactics he has hitherto used have not by any means produced the "ideal" either in flavour or in keeping qualities. I am aware the aim is to obtain varieties with the flavour of Cox's Orange Pippin, but I contend the working of crosses, up to the present, has been wrong. The result so far has been disappointing, as the late veteran of Apple raising, Mr. Charles Ross, in the course of his career put more varieties in nurserymen's hands for distribution than any other ten men living, but how few of them have a pronounced commercial value. Really the variety Rival stands out above the rest. Guelp may have a future, as the tree is a good cropper and the fruit in appearance resembles Coronation, but is firmer in texture.

I have been led to believe in a method quite contrary to the general belief in Apple crossing, viz., to use the pollen of a common Malus, say, of the Crab Apple, on let us say, such a variety as Peasgood's Nonsuch, and consider such a cross would produce better results than crossing

the popular sorts. Of course, this suggestion is only by way of illustration.

Definite utility, the aim and the climax of Apple raising, will be attained when we can plant varieties of the quality of Cox's Orange Pippin to maintain a season from Christmas to June, although the idea may sound far-fetched. The matter lies entirely in the hands of the hybridist as regards definite seasons. His one great effort must be keen observation, a life of activity, never decreasing, when, given time, he will reach the goal of his researches and ambitions. HEREFORD.

STAKING RUNNER BEANS

THE want of method and common sense usually noticeable in the gardens of the inexperienced vegetable-grower who aims at producing a really good crop of Runner Beans is often most obvious, few of them appearing to regard the character of growth peculiar to these plants, and failing to do justice to them in consequence. There are very few gardens where Runner Beans are not grown, and for this reason it may be well to point out how the staking of these plants should be done, so that ample provision may be made for their rambling growths to receive adequate support when they need it.

All too often the plants are set out much too thickly, or, it may be, the seeds have been sown in prodigal fashion at an earlier date. Whichever may be the case, it is a mistake to sow or plant thickly. There should be one seed or seedling to each stake. When done in any other way the result is most unsatisfactory. How often one sees the plants thickly disposed in the row and a large number of thin and short stakes inserted for their support. Within a very short space of time the growths of the Runner Beans will reach the top of these short, weak stakes, and the only thing that can then take place is for the weak heads of the stakes and their over-vigorous growths to topple over, so that cropping facilities are checked.

1.—THE WRONG METHOD OF STAKING RUNNER BEANS.

The supports have been placed too close together.

In Fig. 1 the wrong method of staking is shown. In this instance the stakes are not more than 6 feet in height and the heads of the stakes are turned inwards at the top. The stakes are also inserted too close to the plants at their base; in such conditions the results can never be satisfactory. To teach the beginner how he should do the work, a row of plants, properly staked, is shown in Fig. 2, although even this might be improved upon. A careful observation of the base of the stakes will reveal one stake allotted to each plant. In this way it is quite a simple matter to encourage the plant to entwine its growth around the stake inserted for its support, so that its subsequent treatment leaves little else to be done. The stakes should be from 8 feet to 10 feet in length, and if a double row of plants is grown as depicted in Fig. 2, the stakes should be inserted at an angle on each side of the double row. This is brought about by crossing the tops of the stakes some 18 inches, more or less, below their apex, and to secure them in this position either wire may be secured to the forks through the whole length of the row, or long, straight stakes may be tied in the same position, these being secured with stout twine. As soon as the growths have reached the tops of the stakes, they should be pinched off or cut with shears. When this is done, lateral growths are encouraged to develop and heavier crops are secured. In cases where a single row of plants is grown, use tall, stout stakes, inserting these in upright fashion and securing them to stout poles at intervals of a few yards, or strong winds in late summer may cause trouble. In dry weather mulch the rows with a heavy dressing of old hotbed material or partially rotted manure.

PEACH TREES OUTDOORS

THE cold, chilly nights we have recently experienced have greatly retarded the growth of both the Peach and Nectarine, and in many instances the young shoots have become much infested with green fly. These insects, which appear to have a great liking for the young growths, if not checked early will quickly cripple the shoots to such an extent that for weeks little further growth will be made. I have experienced more difficulty in eradicating this pest this spring than has been the case for many years, but under repeated syringing almost daily with a Quassia extract they are now fast disappearing, so that with genial weather we hope for a healthy growth and an abundance of firm, dark green leaves, essential for the annual production of heavy crops of good fruit.

Our trees have set a very heavy crop, and the thinning of the fruit will soon receive attention. I do not at any time advocate too heavy a crop of fruit, but a fair supply, thus giving the trees an opportunity of building strong, fruitful wood for the next year's crop. Disbudding and training in the young wood must be thoroughly and carefully attended to, removing at intervals, with the thumb and finger, ill-placed young shoots and those not required for filling up wall space.

It is needless to remark that the well-trained Peach tree depends greatly on the way it is disbudded. One should never lose sight of a single shoot that is wanted for a particular purpose. It is well to go over the trees at various times in preference to one severe thinning. At the first thinning preserve one strong shoot at the base, on the upper side if possible, others at intervals of a few inches, the leaders and any fore-right shoots and those at the back, after which others may be removed, and so on till only sufficient are left for next year's crop. We always keep removing any young or useless shoots when going over the trees throughout the growing season, so that the winter pruning is practically reduced to a minimum.

Young trees planted last autumn should be given a good firm treading over and about the roots, after which slightly loosen the surface to the depth of 2 inches to prevent cracking. Then carefully secure the new shoots to the walls or trellises for the formation of the future trees. These should be trained straight from the various

2.—THE RIGHT WAY TO STAKE RUNNER BEANS.

points and at suitable angles, leaving ample space in the ties for the development of the shoots without pinching them during the summer. Keep them clean and free from insects, and should water at the roots be required at a later date, do not omit to supply sufficient to keep the trees healthy and produce a free growth. M.

AMERICAN GOOSEBERRY MILDEW

GOOD EFFECTS OF BURGUNDY MIXTURE.

DURING the late autumn and winter I collected and examined a large number of twigs from Gooseberry bushes affected with the American Gooseberry mildew at Wisley, which had been sprayed with Burgundy mixture by Dr. Horne in July, 1916, with the object of discovering whether the spraying had destroyed the vitality of the perithecia (winter fruits).

The spraying was done after mature winter fruits had formed on a large number of the twigs. Prior to the spraying, several twigs were labelled, viz.: 1, Twigs without mildew; 2, twigs with white mildew only, perithecia not formed; 3, twigs with mature perithecia. My observations may be summarised as follow:

1. Twigs not mildewed at the time of spraying: No mildew subsequently appeared.

2. Twigs with white mildew but no perithecia at the time of spraying: No perithecia were subsequently observed, with the exception of a very few young ones in a few cases, probably present at the time of spraying. The contents of these were shrivelled.

3. Twigs with mature perithecia present at the time of spraying: The perithecia contained shrivelled asci and shrivelled ascospores which, when immersed in water or dilute

sugar solution and pressed out of the perithecia, burst within a few seconds. The ascospores were not discharged naturally and *failed to germinate*.

The perithecia from unsprayed bushes, used as a control, discharged perfectly healthy asci and ascospores, which did not burst when immersed in sugar solution, but sometimes burst in water after the lapse of a comparatively long period. Ascospores were discharged from these perithecia and collected on cover-glasses arranged at a distance of one-quarter of an inch to over 2 inches from the perithecia. On several occasions the ascospores germinated, producing a short germ tube. Unsprayed twigs from other localities yielded similar results.

Twigs sent for examination from a locality where the operator admitted that the bushes were sprayed with a mixture incorrectly prepared yielded a large proportion of perithecia capable of ejecting spores.

The ejection of ascospores has been observed in December, January, March and April.

From these results it is evident that the spraying with Burgundy mixture was effective, not only in preventing the appearance of mildew, but also in destroying it when present, whether in an early or in an advanced stage in its life-history. The mixtures used were one-half and one-quarter strength Burgundy mixture, made up according to the following formulæ:

1.—HALF-STRENGTH:

Copper sulphate (98 purity) ..	9¾oz.
Sodium carbonate (washing soda)	11oz.
Soap powder	6oz.
Water	6gal.

2.—QUARTER-STRENGTH:

Copper sulphate (98 purity) ..	9¾oz.
Sodium carbonate (washing soda)	11oz.
Soap powder	12oz.
Water	12gal.

ELEANOR V. HORNE, A.R.C.Sc.

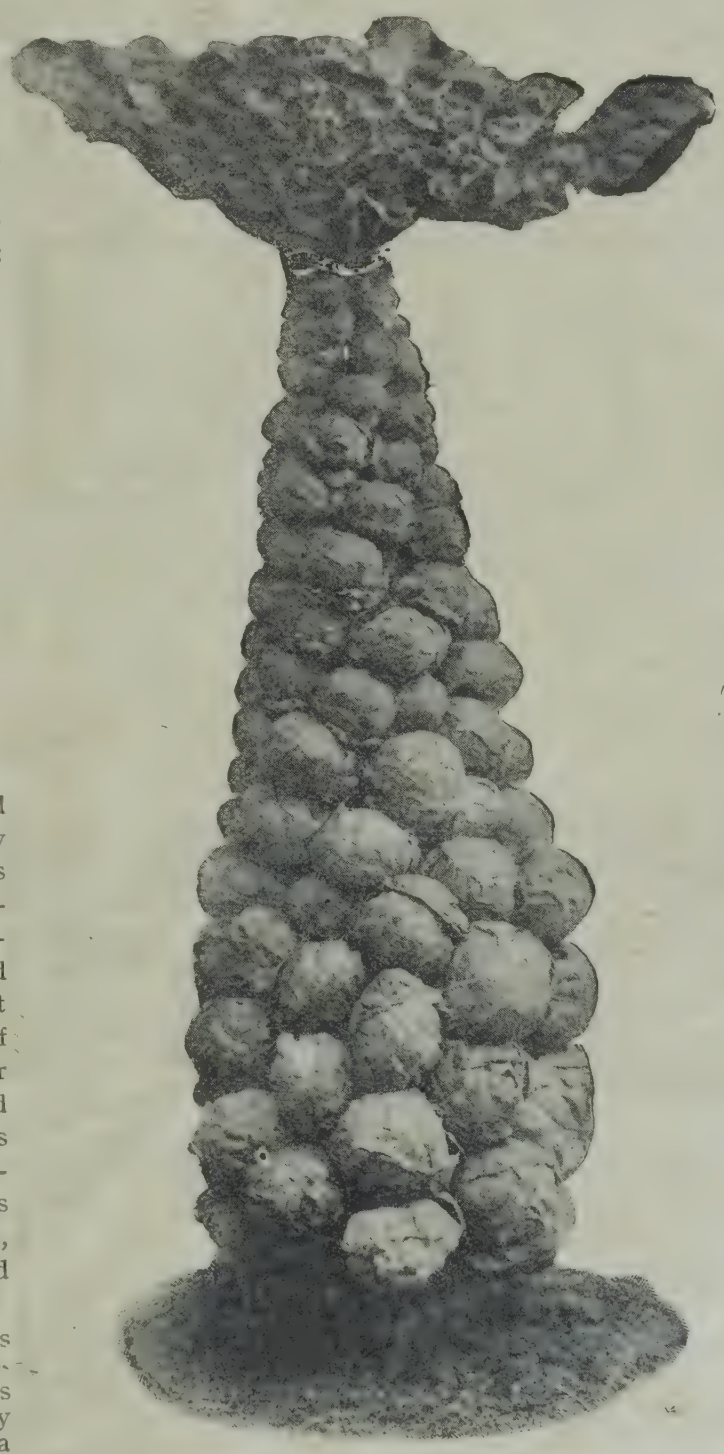
BEETROOTS

BEETROOTS are very nutritious, and merit far wider consumption than they usually obtain. Habitually used as salading, yet cold, sweet, soft, well-cooked Beet is very delicious and appetising, especially when partaken of with cold meats for breakfast, luncheon or supper. Great size of root is invariably allied to coarseness of flesh and bad colour; hence the seed should never be sown where the soil has been recently dressed with strong manures. The best Beets are always obtained from ground which, having been previously well manured and borne such a crop as Celery, Cauliflowers, Spinach or early Cabbage, is then deeply dug and thoroughly pulverised and levelled ready for sowing seed.

The earliest to sow and to produce useful roots is the Red Globe, a fine selection from the Turnip-rooted of the old Egyptian type, and which has bulbs of a globular form, deep, smooth and very handsome. The flesh when fully grown is of a deep blood red, very soft and refined. Seed of this variety should be sown thinly in shallow drills 12 inches apart early in April for preference, as the special object in growing it is to obtain early summer bulbs. The long Beet is best sown in this month. Provided the plants are properly thinned to 6 inches apart when young and assisted by having the hoe frequently used among them, they should produce good-sized bulbs to pull by the middle of July, and these should be of perfect form a month later. Growers should take care to obtain the true Red Globe stock and to sow thinly, as thick sowing means not only waste, but gives needless labour in thinning the plants later. For furnishing a supply of roots for the late autumn and winter, none are better than the long tapering-rooted forms. These are numerous and good, though some have rather coarse leafage if grown in rich soil. Among the best are Dell's Crimson, Toogood's Blood Red, Dobbie's New Turpee, Nutting's Dwarf Red, Pragnell's Exhibition and Cheltenham Green Top. The roots of the latter have very dark flesh, and it is the most favoured variety in the market. Still, all those named are of first-rate excellence. The best average time for sowing these Beets is from the 1st to the middle of May. Young plants raised from such sowings make quick growth, and when thinned to 5 inches apart in the rows, these being 12 inches apart, also kept well hoed and clean, form by October fresh, handsome roots. They may remain in the ground, keeping very fresh and sweet up till the end of the year, then be very carefully lifted, the leaves broken off, and stored away in sand or ashes in a cool shed for the winter.

BRUSSELS SPROUTS

DURING last year experience taught me a valuable lesson with these plants. I am always in favour



BRUSSELS SPROUTS FURNISHED FROM BASE TO TOP.

The result of continuous and unchecked growth.

of raising the plants in boxes and transplanting early where autumn sprouts are desired, and in consequence sowed seeds as usual in boxes and carefully transplanted the seedlings in due course. It was not convenient to put out some of them in their final quarters till rather late in the season, owing to lack of space. They were, however, well cared for in the nursery beds in the meantime; but the plants never proved satisfactory in spite of everything that was done for them.

Their stems hardened unduly, and two applications of nitrate of soda failed to have a really beneficial effect on the growth when given about two months after they had been finally transplanted with a hand trowel, with nice balls of earth adhering to the roots. I tried to take a crop of Peas from the quarter before putting out the Brussels Sprouts, and succeeded in this right enough, but failed with the latter through having to retain them too long in the nursery beds. Where Brussels Sprouts are regarded as an important crop—and they are in the majority of gardens—steps should be taken to have a vacant plot for them before the plants get at all hardened or stunted.

An experiment with a few plants in some rather poor, unmanured soil turned out well. The seeds were sown thinly and the resultant plants thinned out, none being transplanted. They made really good progress and have been well furnished with plump sprouts from base to nearly the top. Although growth was never rapid, it continued unchecked.

GEORGE GARNER.

GREEN SPROUTING BROCCOLI

THE great value of a good breadth of this has been again demonstrated during the past winter, plants grown upon an exposed slope proving themselves better able to withstand the severe frosts we experienced during the first half of February than even the most hardy Curled Kale, the tips only of these shoots showing signs of damage.

As a vegetable for coming into use during the early weeks of the year, and, with care, producing a succession of nice shoots until spring, I consider this to have few equals, and it is surprising to find so few gardeners having a knowledge of the plant, more particularly where the ordinary greens, apart from Brussels Sprouts, find little favour. If the best results are to be had, seeds should be obtained from a reliable source, for I have frequently noted in the gardens of friends beds which should have been good have been nothing better than the most common winter greens.

We make a point of transplanting the seedlings from March-sown seed to beds of rich soil, allowing the plants 6 inches or 8 inches each way for development. By paying attention to watering and frequent soil stirring, the plants in these quarters attain to quite large size by the end of June. They are then carefully lifted with a fork and transplanted to the ground upon which the early Potatoes or Peas were grown, and thanks to the large number of roots each plant carries, by planting with a trowel in place of the ordinary dibber very little check follows. We plant in drills about 6 inches deep, spacing the plants from 24 inches to 30 inches apart, the same distance dividing the rows.

Ours being a light, sandy soil, the advantage of planting in these drills is obvious, should a dry period follow the planting, for this allows each plant to get its full share of water without waste, and early in the autumn this soil is drawn to the rows, thus supporting the plants against the strong winds which are a feature of our district in early winter. When grown as outlined above, the plants are covered with good sprouts from Christmas onward, and when cooked form one of the most delicious "greens" with which I am acquainted.

Oxford. F. R. CASTLE.

PLANTS OF THE HIGH ALPS AT HOME.—I

By E. A. Bowles, M.A., V.M.H., F.L.S.

IT seems strange to imagine that Dante ever tried to cultivate alpine plants, yet how otherwise did he gain the experience embodied in the following passage from "Il Convito"? He wrote: "Love is the spiritual union of soul and the thing loved, . . . and is found in both the physical and inanimate worlds, heavy bodies seek the centre of the earth . . . animals the place of their birth, and plants, the first things in the order of Nature with souls, certain places. Some are found by water, others on the heights of mountains, and if removed, either die or live in sadness like things severed from their friends." Even with all the refinements of modern rock gardening the fact is too true, though nowadays we may be more inclined to attribute their languishing to uncongenial climatic conditions than to the bereavement of their souls. There are many exquisite little plants of the high Alps that must be visited in their homes to be seen in full health, vigour and beauty, and others that, although fairly accommodating under cultivation, yet lack much of their native grace when seen in small patches in the bare brown soil of a rock garden, instead of jewelling miles of short turf and forming contrasts and harmonies with colour variations of their own species or many quite distinct plants. It levels the pride of the most successful cultivator of alpines to stand on the southern slope of the Cima Tombea and look upon the hillside rosy red with the wide-open eyes of Primula spectabilis, or among the vast stretches of Viola calcarata of every shade of lilac and purple, cream and yellow, at Le Lautaret or by the Lac du Mont Cenis. Standing among those floral feasts and comparing them with his own carefully tended but still ever ready to vanish specimens, he may well thank his stars he lives in an age when steam and petrol in times of peace have made it so easy to spend a holiday in the high Alps.

Until those evil days of war fell upon us, an ever-increasing number of flower-lovers found their way each season to the flower fields, and a finer tonic for tired nerves and flagging muscles can scarcely be found, especially if undertaken sufficiently early in the season, in mid-June for choice, before it is necessary to struggle with crowds of tourists of all nations out for their summer holiday. What a lesson can be learnt from the portrait of Dryas octopetala! The free way in which it flowers on the open mountain side tells us full exposure to sunshine should be given it in gardens. The rocky surface points to cool root run and yet good drainage and sun-traps to ripen the growths. The open flowers are not quite in their ordinary position of flat stars, and must have been weighted over by a fine rain or the night dew. Again, in this group of Viola calcarata springing from the turf one can see at a glance it represents a plant of two or more years' standing. For a plant flowering for the first time is a compact tuft, and afterwards, like Gentiana verna, works away from the central long tap-root by means of slender underground runners, and so year after year an ever-increasing circle of growth and blossom is formed. It is not uncommon to see a stretch of turf a yard or two across thinly spangled with flowers of the Viola, and all of the same shade of colour, so proclaiming their identity of origin. It is not an easy matter to collect portions of such a plant for cultivation, and unless the venerable patch or circle is of some very unusual and beautiful form, it is wiser to hunt about for a compact young tuft growing in shaly soil or by the edge of the path, so that tap-root and all may be removed without breakage.

Notice, too, in this delightful group how the Viola has run against a stone at the back, and therefore, at its sheltering foot, both from its protection and the arrest of further wandering, the flowers are finer and more closely packed. It is always a joyous moment when, as one ascends through the Fir woods, and open, turfy glades appear among the less crowded stems, this little Viola greets one with its cheery Pansy faces so various in their expressions. The form shown here bears an unusually rounded flower; more often the four upper petals are all raised a little from the lowest, and the expression is then still more wide awake and cheerful; in others the uppermost petals are lowered to either side behind the two next, and then a sleepy or sulky effect is produced. This and the extraordinary range of its colouring make it a most charming plant to wander among, either simply to enjoy its beauty as it grows or to select especially fine forms to pick for a sweet-scented nosegay, its honey-like fragrance being very pleasant. It is one of the few plants of which the peasants pick a bunch to carry or wear, and I believe chiefly on account of its fragrance.

DRYAS OCTOPETALA ON THE MOUNTAIN SIDE (7,000 FEET).

SURFACE CULTIVATION

KEEPING THE HOE GOING.

HAVING brought the soil to a good and thorough state of cultivation and having secured a fine and well-tilled seed-bed, the next step after the seeds are sown is to maintain a fine state of cultivation during the growing period of the crop. The benefits secured to the soil by thorough and continuous surface tillage is well enough known to all experienced gardeners, but the why and wherefore of the matter is not generally understood.

Perhaps the most important benefit from hoeing is that of increasing the water-holding capacity of the soil by preventing water evaporating from the surface. Of course, there is always a certain amount of evaporation going on, and in dry seasons considerable damage is done to crops by loss of moisture. The effect of constant hoeing in this case is to form a surface mulch of 2 inches or 3 inches of fine soil, which by being kept stirred reduces the loss of moisture to a minimum. The work must be done well so as to disintegrate the soil particles to such a degree as to form a dust mulch. This dust on the surface will practically stop the capillary flow of moisture from the soil underneath it. It is impossible to conserve moisture in a soil that has a rough surface. If a plot has become hard by being allowed to remain for a long time without stirring, or by becoming baked and dried after heavy rain, the hoes should be set to work immediately.

The effectiveness of surface cultivation in conserving moisture for the use of crops cannot be better illustrated than by the dry farming of the arid and semi-arid regions of the western part of the United States, where the annual rainfall does not exceed 10 inches, and where the maximum of moisture must be saved by thorough tillage.

The effects of sunshine on the soil and the need for aeration are matters the importance of which is not fully recognised. Sunshine has an invaluable sweetening effect upon the soil by drying it out and by reducing acidity, and many insects are killed by the hot sun in summer-time. The drying of wet soil makes more space for the entrance of air among the soil particles. In this connection it is well to remember that without sufficient air in the soil seeds cannot sprout or plants grow. Besides,

there can be no decay of vegetable or anima matter, neither can those chemical changes take place which render plant food available for the crop. Also denitrifying bacteria live in soil from which air is excluded. These harmful bacteria cannot live in soil having a good circulation of air. On the other hand, the beneficial bacteria cannot live without it.

Last, but by no means least, is the question of destroying weeds. With the continual stirring of the soil with the hoe to form a dust mulch no weeds would be able to grow. In all well-cultivated gardens not a single weed is allowed to flourish. Weeds use up the plant food that should go to the support of the cultivated crop, deprive the soil of a great deal of moisture, and prevent the circulation of air and sunshine among the growing vegetable crops.

The foregoing briefly states the objects to be sought in the cultivation of most vegetable crops during the growing period. Also the value of the hoe when used among fruit trees is very great.

L. M. MARSHALL.

VIOLA CALCARATA SPRINGING FROM THE TURF (7,000 FEET).

A HOME-MADE PEA GUARD

THERE are few gardens immune from the ravages of the ubiquitous sparrow, more especially at this season, when food is scarce. Early Peas are his special favourite. A simple and efficacious Pea guard can be made as follows: Procure some wire-netting 18 inches deep and of ¾-inch mesh, some small wire staples, and some rails of wood 2 inches by 2 inches. For the early border, the rails should correspond with the width of the border; otherwise they may be of any desired length.

Lay two of the rails on the garden path parallel to each other and at 18 inches apart. Now lay your wire-netting along the top of the rails, and only lightly stitch them on with the staples. This done, let two persons each catch up the rails at either end and place them on the line of Peas. Then draw the rails closer together till an arch about 9 inches high is formed. Close up the terminal ends and you have a sparrow-proof guard. The guards can, of course, be used for later sowings. When the season's work is finished, draw the staples, roll up the netting and store under cover till the following spring.

Midlothian. CHARLES COMFORT.

SALADS

(*Continued from page* 165.)

THE distance apart at which Lettuces should be planted depends upon what size they attain when fully grown. Small-growing varieties may be planted 8 inches distant from each other, those of medium size at 10 inches, and the larger ones 12 inches apart. Mammoth may be allowed even rather more space in which to develop. It is necessary to tie some Cos varieties in order to blanch them, and this should be done a fortnight before cutting. Cabbage varieties should not need tying; those that do require it we do not think worth growing. To obtain the best Lettuce, well-cultivated, rich ground is essential. Liberal and frequent waterings are also necessary during hot and dry weather. At no time of the year, whether under glass or out of doors, must the soil be allowed to become dry.

Insect Pests.

Slugs are frequently troublesome; as soon as the seedlings appear above ground they often eat them off. We know of no better method of checking their ravages than by dusting freshly slaked lime over the seeds. This is preferably done early in the morning. During showery weather it may be necessary to do this almost daily. The frequent use of the hoe is an important factor in the successful cultivation of the Lettuce.

Protection.

The best protection that can be given to autumn and winter Lettuce is to lift those that are well developed (excepting those for immediate use) and plant them in a cold frame or a pit as close together as they can be without being crowded. In lifting, care should be taken to preserve as many roots as possible; the plants ought also to be graded into two or three sizes, so that when one cuts them the pit may be cleared by commencing at one end and proceeding uninterruptedly. This practice admits of others being brought in from outside that have developed since the first lot of plants was lifted.

Another method of protecting the Lettuces is to place frames over them as they are growing; rough three-light frames are very useful for this purpoes. Mats and long stable litter should be used for covering at night, taking care to place plenty of the latter around the sides of the frame. During mild weather draw off the lights, tilting them at the back instead when it rains. Ventilate every day when the temperature is above freezing point.

From a sowing of both Cabbage and Cos varieties made late in the month of August, part of a frame or cold pit may be planted; they now provide excellent Lettuce for cutting. The plants raised from seed in September and put out on a south border should in January be planted in a heated pit, in soil resting upon a mild hotbed. These quickly develop into plants of the best quality. Cabbage varieties are best suited for this treatment. Plants from a sowing made in January upon a hotbed will succeed the first early crop sown in the autumn. As a salad

Endive

ranks next in importance to Lettuce. It provides a welcome change from the latter, and assists to maintain the supply of salads well into the winter. The best varieties are Round-leaved Batavian and Green Curled. Successive sowings may be made from now to August. Give the plants the same treatment as the Lettuce received, planting as far apart as recommended for the largest Lettuce. Both the above-mentioned varieties must be tied to enable them to blanch perfectly.

Chicory

is a good salad for use in January and February when Lettuce is scarce. It has, however, a bitter taste which many do not care for. June is the most suitable time to sow Chicory. Make the drills 15 inches apart in which the seed is sown, and subsequently thin the seedlings to 6 inches apart. The roots are finally lifted and forced in a dark structure, such as the Mushroom-house, in a similar manner as for Seakale.

Brussels Chicory or Witloof

is an excellent winter salad and should be sown now. A detailed account of its cultivation appeared in issue May 5, page 157.

Corn Salad or Lamb's Lettuce

makes a welcome addition to the list of salads, for it also is in season when others are scarce, viz., during February and March. Sow in drills 1 foot apart in June, and when the seedlings are well through the soil thin them out to 4 inches apart. Corn Salad is quite hardy.

Celery

also makes a splendid winter salad, either alone, with the usual herbs, or in a mixed salad. In preparing it cut the blanched leaf-stalks across in small pieces.

Tomatoes

provide a delicious and favourite salad; one may use them alone or mixed with other vegetables. Their increased utility and popularity are accounted for by the fact that they may be had throughout the greater part of the year.

Other salads are Cucumbers, Radishes, Mustard and Cress, Watercress, Celeriac, Stachys, French Beans, &c.; indeed, there are few vegetables that are not suitable for the salad bowl.

Herbs

play an important part in flavouring salads. Tarragon is in demand every day of the year. From April to October the supply is provided by plants grown outside, and from October to April by forcing. To be able to maintain an uninterrupted supply, a fresh plantation of young plants should be made every spring; plenty of roots will then be available for forcing. The soil for the cultivation of Tarragon should be light; if it is at all heavy, add spent Mushroom-bed manure and burnt earth. This herb is increased by division of the roots. The best roots for forcing are those two years old; they are then a convenient size for placing in pots or boxes. Early October is the best time of the year to lift them.

Salads are very wholesome; they retain properties that are lost by cooked vegetables. Lettuce and Endive should not be washed if it is at all possible to remove the dirt from them by means of a dry cloth.

GARDENING OF THE WEEK

FOR NORTHERN GARDENS.

The Kitchen Garden.

Kidney Beans may now be sown with safety; Canadian Wonder, Ne Plus Ultra and Sutton's Evergreen are reliable and favourite varieties in this district. Sow the seeds in drills 18 inches apart and drop them 3 inches apart in the rows, afterwards thinning out when the rough leaves appear. In our colder districts early sowings are often a failure, so a warm border is generally chosen for the first crop.

Asparagus-Beds.—Asparagus in seed-beds should now receive attention, as it is essential that no overcrowding of the seedlings takes place. Stir the soil between the lines with a small fork, and encourage the plants with copious waterings during dry weather.

Beet.—Main crops should at once be sown, also make another sowing of Sutton's Round Globe variety.

Celery Trenches.—The man who looks ahead will no doubt be prepared by having his trenches ready, so that as soon as the Celery plants are sufficiently hardened off they may with advantage be at once transferred to their final quarters. Do not let plants remain in boxes or frames until they are stunted and yellow, as so often happens in establishments where the preparation of the trenches is left till the last moment. Opinions differ regarding the width of the trenches, but one's own common sense should be a sufficient guide in this matter. The bottom of the trench should be liberally manured, and as Celery plants are moisture-loving, they should be freely watered if the weather is hot and dry.

Cucumbers in Hotbeds should have their leading shoot pinched out so that they may spread freely in the frame. Avoid overcrowding, and place the young fruits on slates or boards. Syringe freely, and close the frame early to conserve the sun-heat, as by now the hotbed will be losing its power.

Swedes.—Sow good breadths of these for winter use, as there is no more valuable addition to the menu now than this long-despised vegetable. Give them a rich piece of ground and work freely between the drills during the summer. Refrain from using artificial manure, more especially if the roots are wanted to keep till the spring, as we find they have a tendency to decay more readily than when farmyard manure is used.

Potatoes in Frames.—Earth up as required and give occasional waterings to swell the tubers. Keep the lights off during fine weather.

Fruit Under Glass.

Vines.—With the increasing sun-heat it will be necessary to maintain a moister atmosphere in vineries containing Grapes which have been thinned, keeping up a good brisk temperature at night. If the Vines are carrying heavy crops, liberal feeding should be afforded them. Keep all sublaterals in check and ventilate as required.

Fruit Trees in Pots.—These being well advanced, with fruit swelling rapidly, should receive feeding regularly, care being taken to give it when the plants are in a moist condition at the roots. The plants should at no time be allowed to become dry, as the result will be fatal to the crop's chance of being carried to a successful finish. Pinch the tips of the young wood and keep the syringe going to prevent attacks of insect pests.

The Flower Garden.

Biennials.—Sweet Williams, Canterbury Bells, Rose Campion and Myosotis may now be sown for next season's flowering in a prepared bed in the open or in a frame, pricking out into nursery lines in the reserve garden as soon as they are fit to handle.

Planting Out.—Plant out Violas, Chrysanthemums, Calceolarias, Pentstemons and all other hardy bedding plants. A good soaking of water ought to be given just previous to lifting; this causes the soil to adhere to the roots, giving them less check.

Climbers.—Most of the hardy climbers will be making growth freely now, so should receive attention to prevent the shoots getting entangled or broken. Care should be taken when tying to see that the flow of sap is not restricted in any way.

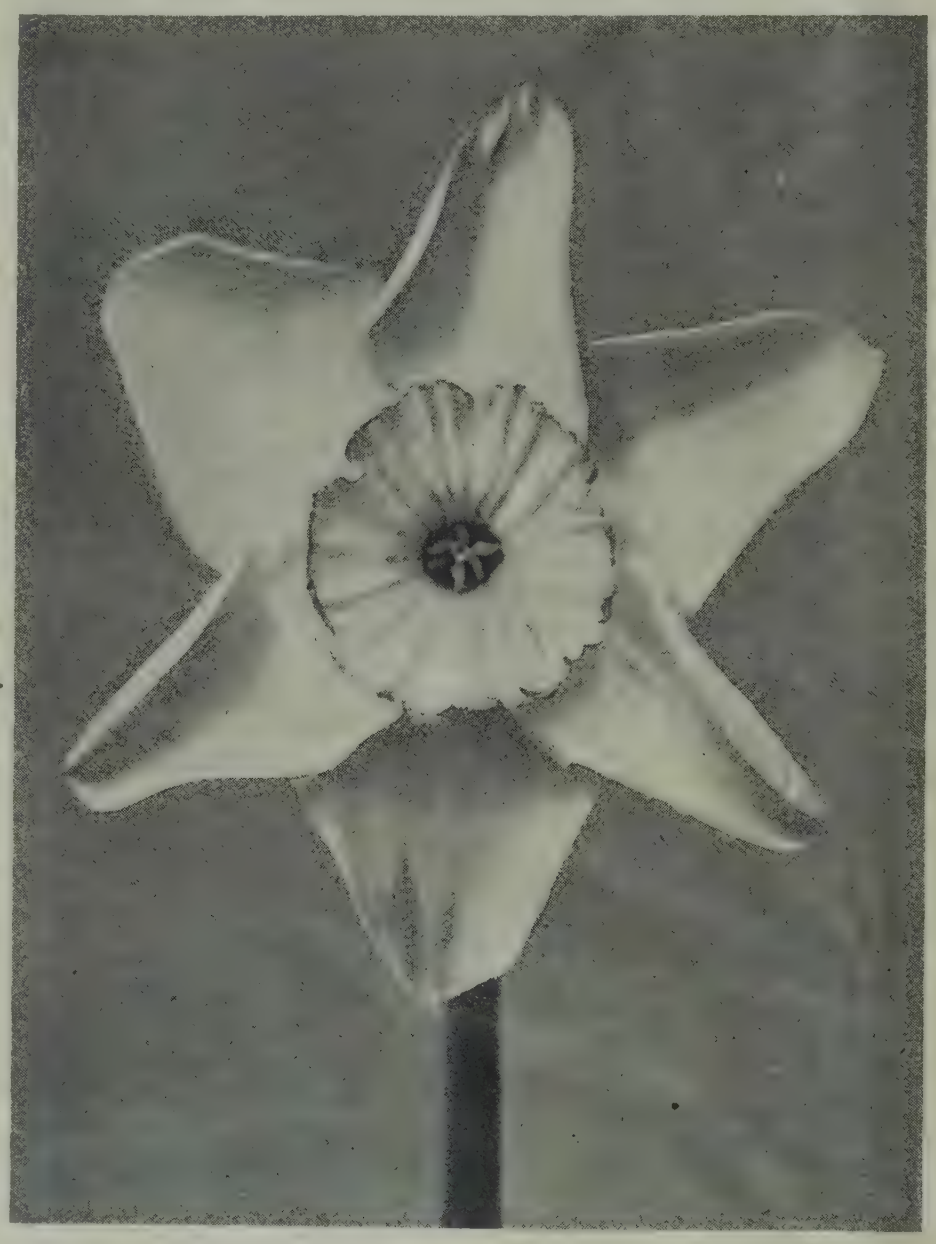
Pruning Shrubs.—Unfortunately, many shrubs will require to be gone over this month and the dead shoots cut away. The havoc wrought by the severe weather is, in many cases, only now being noticed, since the heat of the sun has browned the leaves. Standard Roses are also sufferers, in many cases the shoots having to be cut right back to the base. If Rhododendrons are pruned back now they will soon recover from any disfigurement that has been caused by having to cut back severely.

JAMES MCGRAN.
The Gardens, Coodham, Kilmarnock.

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus is now growing freely; strong heads are pushing up with the increase in sun power. All



THE EXQUISITE DAFFODIL DISTINGUE.

that the strong-growing beds require is to keep them free from weeds. Weak-growing plants in young or old beds should have a sprinkling of some fertiliser preceding a shower. Soot is a desirable stimulant; so is agricultural salt. Newly planted beds should have a light mulching of half-decayed horse-manure; or, where the soil is stiff, decayed vegetable refuse, wood-ashes and decayed leaves would be an advantage in inducing freedom of growth. Seedling plants should be thinned to one in a clump.

Onions.—Late-raised plants of the Ailsa Craig type in boxes or frames should be planted out without delay, lifting them with a ball of earth attached to the roots where possible; this prevents a check to growth. The ordinary sown crop in the open should have the surface soil stirred between the rows to facilitate growth. Where the plants show a tinge of yellow in the tops, a light dusting over with soot would improve matters.

Brussels Sprouts should be transplanted to their permanent quarters as fast as possible before the plants get too large, as when in this stage they feel the check of removal much more. Plants sown in the open should be kept quite free from weeds, and if they promise to be too thick, remove the smaller to add vigour to the stouter ones.

Cabbage from boxes and frames should be put out as fast as possible to fill up gaps and make new plantations.

Beet.—The early-sown batch should be promptly thinned to one plant in each site. Where sown in bored holes, stir the surface soil as often as possible.

Parsley.—Sow seed in the open for succession, and plant out the seedlings sown in boxes under glass, selecting the best type of curl in the leaves.

Lettuce in frames should have the lights removed during the day and the roots be well supplied with water, as from here the first supplies will be obtained.

Radishes of the French Breakfast type should be sown every fortnight, always watering the site first, as this hastens germination so much during dry weather.

Tomatoes for the open should now be in frames to harden off before putting them into their permanent site. Deeply dig the soil, but do not add much manure. Stimulants can be given as progress is made. A sturdy growth is required; not thick, sappy stems.

Vegetables Under Glass.

Cucumbers are making rapid progress now with the increased sun power. Keep the shoots well and timely thinned; overcrowding is ruinous to the future welfare of the plants. Top-dress with loam and a sprinkling of bone-meal as fast as the roots show through the surface soil. Freely supply liquid manure to plants that have been bearing for some time, and remove any worn out shoots to encourage young growth.

The Flower Garden.

The Herbaceous Border.—Plants like Michaelmas Daisies and Phloxes that were not replanted this season and which show signs of overcrowding should be promptly thinned or reduced in area, forking in half-rotted manure about the roots. Fill up gaps with plants of such subjects as Lychnis, Carnations, herbaceous Lobelias and Gaillardias, wintered in frames.

Thin Annuals sown in clumps, like Mignonette, Shirley or other Poppies; overcrowding means ruination, weakly growth and poor flowers.

Delphiniums should be mulched with half-decayed manure to induce stout growths, covering this with soil for the sake of appearance.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

DAFFODIL DISTINGUE

THOSE lucky beings who were fortunate enough to have a peep at this exquisite flower at the Royal Horticultural Society's show on May 8 looked upon a bloom of great refinement and of sufficient size to satisfy the most exacting. It may be described as a large example of an old type Leedsii, a class to-day known in show circles as "Class 4b." The corona is an ivory white disc with a pronounced pale lemon edge. The perianth segments are long and pointed, of the smoothest texture, and of almost Poeticus whiteness. The three inner ones have that slight incurve on their edges, which is just sufficient to give an added beauty to the whole bloom and which marks it as different from the multitude. Mr. Henry Backhouse, its raiser, has very happily suggested this look in the name he has given it. The diameter of the disc-like corona is 1¼ inches, and that of the whole flower 3¾ inches. The sight of it made my mouth water.

JOSEPH JACOB.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Primula Eureka.—A remarkable plant said to be a hybrid between a selected form of P. obconica crossed with a P. sinensis variety. The exhibited plants were only six months old, and were shown in pots of 4 inches diameter. The exceptionally large flowers are of rich rose carmine with yellow eye, and borne in sturdy trusses about 8 inches high. The leaf develo ment was as remarkable as that of the flowers. Shown by Adeline Duchess of Bedford, Chenies (gardener, Mr. J. Dickson).

Rosa Hugonis.—An early flowering species from China having small, elegant, pinnate leaves and producing festoons of single primrose-coloured blooms. Old plants were wreathed with them in a delightful fashion. From Messrs. Piper, Bayswater.

Primula sino-purpurea.—A new and entirely distinct deciduous species from China, one of the many good things discovered by Mr. Forrest. Small plants just developing displayed some variation of colour, the dominant shade being rich purple with pure white eye. Passing the winter in the open unharmed, it is likely to prove an acquisition. Shown by Messrs. R. W. Wallace and Co., Colchester.

Schizanthus.—The award in this case was given to a strain recognised as Dr. Badger's hybrids, which represent the highest merit in these useful flowers. Of exceptional size and containing much variety, the strain left nothing to be desired. Sown on February 3 last, the plants were shown in the highest excellence when less than three months old. Exhibited by Messrs. Dobbie and Co., Edinburgh.

Narcissus Poeticus ornatus fl.-pl.—Just a double-flowered ornatus with all the good attributes of the original and calculated to become equally popular. Of the purest white, it is also highly fragrant. From Messrs. F. Culpin and Son, Spalding.

Narcissus Vintage.—A refined and beautiful triandrus hybrid of clear lemon yellow throughout, and distinct by reason of its shapely expanding crown. Quite a show flower. Shown by Mr. F. Herbert Chapman, Rye, Sussex.

Narcissus Queen of Dawn.—A handsome, well-balanced Barri whose creamy perianth is in sharp contrast with the spreading, elegantly frilled and brilliant-coloured crown. Award for show purposes. Shown by Messrs. Barr and Sons, Covent Garden, W.C.

Narcissus Helmet.—A Giant Leedsii of the largest size and white throughout. We know of nothing to equal it in its class. Award for show purposes. From Mr. W. B. Cranfield, Enfield.

Selenipedium caudatum var. Sanderæ.—A prominent feature of this variety is the unusual size of the lower dorsal petal. The dominant colour is yellow, with white and green reticulations. The petals are from 2 feet to 2½ feet long. Shown by Messrs. Sander and Sons, St. Albans.

Dendrobium Illustre var. Florence Bartels (D. chrysotoxum × D. Dalhousianum).—A very charming yellow-flowered hybrid whose bearded lip is heavily marked with maroon crimson at the base. Shown by Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gardener, Mr. W. Collier).

Odontioda Cardinal was shown by Mr. J. E. Shill, Englefield Green but we were unable to locate it.

The foregoing were exhibited before the Royal Horticultural Society on May 8, when the awards were made.

PRIMULA EUREKA, AN ALLEGED HYBRID BETWEEN P. OBCONICA AND P. SINENSIS.

PRESERVING PEAS AND BEANS

An extremely useful course of lectures and demonstrations in bottling fruits and vegetables is being given by Mr. Vincent Banks at the fortnightly meetings of the Royal Horticultural Society, held at the London Scottish Drill Hall, Westminster. Mr. Banks is known to be a most successful expert in this work, and all who frequent the Royal Horticultural Society's shows are familiar with his splendid exhibits of bottled fruits and vegetables. It is our intention to describe these demonstrations in future issues, in the hope that the information will be helpful to those who are unable to attend the meetings. Fortunately, a good deal of garden produce may be preserved without the use of sugar, and we hope to refer in a future issue to the means whereby fruit pulp may be preserved in any odd bottles or jars—a point of importance, since vacuum jars are likely to be scarce and dear, while there are millions of jars lying idle in the homes throughout the country

Bottling Peas and Beans.—At the last meeting Mr. Vincent Banks exhibited Peas and Runner Beans in bottles which had been preserved in excellent condition as follows: After shelling or cutting in the way usually prepared for table, put them in a pan of cold water with a little salt

ROSA HUGONIS, AN EARLY-FLOWERING SPECIES.

and soda, and with the Peas add a sprig or two of Mint and a lump of sugar; put on the fire and bring to the boil for a minute or two; then take off and cool in cold water. For the Peas, previously pour some boiling water on to the sprigs of Mint, a little sugar, salt and soda according to the quantity to be bottled, but do not let the Mint remain in too long. Allow this mixture to cool; then fill the bottles with Peas and pour on the prepared mixture. The Beans only require plain cold water, with a little salt and a tiny piece of soda. Place the caps on the bottles; then put the bottles in a pan and *cover* with cold water, bring to the boil and keep *gently* boiling for one and a half hours, take out and put on the rubber ring, also cap, and screw or clip *tightly* down. If it is desired that the Peas and Beans should retain their green appearance a teaspoonful of powdered borax should be dissolved in each pint of boiling water. In the case of Peas it should be included in the Mint mixture, but for Beans it must be mixed separately and poured over them in the bottles when nearly or quite cold. Most text-books on bottling recommend covering the bottles to the shoulder in water, but the bottles should be just covered to the top, otherwise the contents at the top of the bottle are not subject to the same temperature, and this is a very frequent cause of failure.

Preserving by Salt and Drying.—In addition to bottling, we would like to call the attention of readers to the following simple means of preserving Peas and Beans: French Beans and Runner Beans can be preserved in earthenware jars with salt quite easily. They need not be sliced, but should be cut open along the midrib or preserved whole. Place the Beans in layers in the jars, and cover each layer with salt until the jar is full; then tie down with a piece of parchment paper. The Beans are thus preserved satisfactorily; but the disadvantage is in unsalting, which necessitates the loss of a great deal of the protein—as much as 84 per cent., we are told. Nevertheless, the Beans are very palatable and still nutritious when preserved in this way. Young Beans should, of course, be selected; it is a mistake to preserve the old Beans only at the end of the season. Any variety of Runner or French Bean may be preserved in this way, but one of the best is Carter's Perpetual French Bean. This variety keeps green longer than any other variety we know. In the trials at Wisley it remained fresh and green late in the season long after other varieties had turned sere and yellow. The Beans should be thoroughly washed in running water on a sieve before cooking, in order to remove

the salt. Look at the Beans from time to time in the jars, and if a layer of mildew forms, skim it off and put a fresh layer of salt on the top. The Beans underneath will be all right. If Peas are sprinkled in with the Beans, they may be preserved together. Sugar Peas may be preserved in the same way, but it is better to preserve them in the pod, as they absorb less salt. A good way to preserve Broad Beans is to leave them to ripen on the plants. Pick them in September when the haulms are turning black, and dry them in an oven with gentle heat. Store in a dry cupboard, for preference in a tin box.

BOOKS

Sir Arthur Hort's "Theophrastus."*—It would be presumptuous for any man whose greatest achievement in the Greek language was the making in the distant past of an iambic which neither scanned nor construed, to venture any remarks on such a recondite subject as the true reading or the most fitting emendations of the original text of Theophrastus. Readers of THE GARDEN will for the most part be quite content to shut their mouths and open their eyes and see what Sir Arthur Hort has given them, more especially when they have read and digested his admirable translation, which, perchance, is destined in years to come to be referred to as Hort's "Theophrastus" in the same way that we speak of Holland's "Pliny."

Nor would it be anything less than a parading in clothes which did not belong to him were one whose attainments in botany were only those commensurate with a third class in the Natural Science Tripos, and who can honestly say he has never attempted as a result of his study of plants to change the name of the most humble genus or species in the vegetable kingdom, were, I say, such an one to attempt to criticise the putting of the Theophrastan plant nomenclature into modern clothing so that we moderns may understand what the old Greek wrote about and described. This has been done by Sir William Thiselton-Dyer and other helpers, whose expert knowledge entitles their findings to the status of an almost *ex cathedrâ* pronouncement. What I want to do in my notes about this translation is primarily to thank the translator for having opened my eyes to the wonderful knowledge of plant-life which the great Aristotle's favourite pupil and bosom friend was able to accumulate 300 years before the Birth of Christ.

To me the fascination of Sir Arthur's book lies in this, viz., that it is a simple translation. He has resisted the tremendous temptation of overloading his pages; for almost every paragraph must have mutely asked for notice. Think what might have been written about the makers of wreaths or garlands (Hort, Vol. II., page 51) and the coronary plants (*idem*, page 35) of the day. The mind leaps over centuries and lands at the great book—"The Plan of a Royal Garden"—which Evelyn contemplated and for which he invited Sir Thomas Browne to write the chapter on "Garlands and Coronary Plants." Then Theophrastus (Vol. I., page 35) gives in connection with Restharrow the old familiar advice that it is easier to weed when the ground is wet than when it is dry. Again, there is a notice of the famous Mandrake (Vol. II., page 259), and if one expected to read a harrowing account of the danger attending its uprooting, one is disappointed, for the unfortunate dog of later years is left out, and the drawing "three circles round the plant with a sword" and "at the cutting of the second piece the dancing round and saying as many things possible about the mysteries of love" are only mentioned to be dismissed. "These notions seem to be irrelevant." The illustration on Plate 5 of Arber's Herbals of the Mandrake in the Herbarium of Apuleius (1484?) certainly would not have done duty in the "Historia Plantarum," or the pathetic figure of the poor little fox-terrier would have had to be cut out. Lastly, to take a more botanical illustration of its contents, Theophrastus' remarks about fruits are quite uncanny. To him the part of a plant which was in popular phraseology called a fruit was always a fruit, alike in the earliest stages of its differentiation as in its completed maturity (Vol. I., pages 11 and 79). Was it because of his enforced limitation of observation that he had not to ask when is a fruit not a fruit? The want of a microscope possibly saved him from any such perplexity. But what would he not have discovered had that instrument been at his service? Would Grace the cricketer, ever have been got out in his palmy days had wickets been like the billiard tables of later years? Who can say what scores he might not have run up? So for Theophrastus; given a microscope, what might he not have found out?

I hope these few random allusions to the contents of the wonderful book which Sir Arthur Hort has now so ably opened up will be sufficient to stimulate

MANDRAKE AND FOX-TERRIER.
From an illustration in Arber's Herbals.

the curiosity of many lovers of plants and plant-life to whom the Greek original is but a sealed book. This English version is eminently understandable, readable and, as far as I am able to judge, representative of the views of the great Grecian who taught in and cultivated and loved his garden at Athens, to which the "Historia Plantarum" owes in various ways so much. JOSEPH JACOB.

*"Theophrastus: Enquiry into Plants and Minor Works on Odours and Weather Signs," by Sir Arthur Hort. Published by William Heinemann; price 5s

SOCIETIES

SCOTTISH HORTICULTURAL ASSOCIATION.

THE May meeting of the Scottish Horticultural Association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the evening of May 1. It had been intended to hold a small spring show on this occasion, but that was abandoned, and the proceedings followed the usual course of the monthly meeting. The chair was occupied by Mr. John Phillips, Granton Road Nurseries, Edinburgh, president of the association.

The paper of the evening was given by Mr. W. G. Pirie, factor, Dalhousie Castle, and was on "Daffodils." Mr. Pirie, who is a well-known expert on the cultivation, exhibition and raising of the Daffodil, discussed the cultivation, the diseases and the appropriate remedies. He also discussed the question of hybridising, and exhibited a number of specimens illustrating the results of crossing and hybridising. This was an exceedingly interesting part of the paper, Mr. Pirie having been successful in raising a number of new varieties of much excellence. He was awarded a hearty vote of thanks.

Among the exhibits were a number of Narcissi, sent by Mr. Crighton, Dalhousie Castle Gardens, and an exhibit of half a dozen very fine specimen Amaryllids, sent by Mr. J. W. M'Hattie from the Parks Department of the City of Edinburgh. These were much admired and showed high cultivation.

NATIONAL AURICULA AND PRIMULA SOCIETY (SOUTHERN SECTION).

THIS society held its annual exhibition in conjunction with the fortnightly meeting of the Royal Horticultural Society on April 24, the event proving one of the smallest on record. Most of the leading exhibitors were unable to show owing to the lateness of the season, and but few classes were worthily represented.

For six show Auriculas Miss Lowinsky, Tittenhurst, Sunninghill, Berks, was awarded the first prize in addition to the James Douglas Memorial Cup and Medal. Her best were Acme, Buttercup, Harrison Weir and Mrs. Phillips. This exhibitor also took first prize for four show Auriculas.

In the class for twelve alpine Auriculas Messrs. Phillips and Taylor, Bracknell, showed Sunbeam and eleven seedlings, and were awarded first prize.

For six alpines Mr. J. T. Bennett-Poë, 29, Ashley Place, S.W., led, staging Dean Hole, Argus, Mrs. Douglas, Phyllis Douglas, Rosy Morn and Teviotdale in very good form; second, Miss Lowinsky. These two exhibitors occupied like places for four alpines, Mr. J. T. Bennett-Poë showing Dean Hole, Argus, Teviotdale and Mrs. J. Douglas, the last named being selected as the premier alpine Auricula in the show.

Mr. H. W. Mason, Banstead, secured first prize for six alpine Auriculas, of which King George, Commander, Golden Dustman and Mrs. J. Douglas were the pick.

The Primula section, usually a most interesting one, was no better represented, Mr. G. W. Miller, Clarkson Nurseries, Wisbech, taking first prize for a collection of species and varieties and for six double Primroses, varieties of Primula acaulis.

Non-competitive exhibits were staged by Mr. J. Douglas, Great Bookham, who had a miscellaneous group of show, alpine and fancy Auriculas, hybrid Primulas, P. viscosa and others; and Messrs. Phillips and Taylor, Bracknell, Berks, whose group was of Primulas alone, P. viscosa, P. pubescens alba (P. nivalis), and a nice lot of P. Mrs. J. H. Wilson, which is among the best of the alpine set.

THE EDITOR'S TABLE

A New Richardia.—From Mr. G. Taylor, Ferrybridge, Yorks, we have received flowers of a grand Richardia very much larger than Richardia (Calla) æthiopica. The spathes are of immense size, measuring 8 inches long by 7 inches across, very solid, and of the purest white, with canary yellow spadix. The foliage, which is sagittate, measures 14 inches long by 11 inches across at the base. Mr. Taylor states that it is a veritable giant in growth, each stem throwing up two flowers. The plants have only been grown in a temperature ranging from 50° to 55°. Oddly enough, this Richardia is the result of crossing ordinary R. æthiopica and R. æthiopica Little Gem. Mr. Taylor has some of these plants growing in a lake, where they were planted nine years ago and where they thrive wonderfully well, one clump having more than twenty blooms open at a time. The flowers outdoors are not as large as those produced under glass; nevertheless, they are very good.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

REPLANTING DAFFODILS (*E. T.*).—Yes; groups of these that have by long tenure of the ground or too close planting originally become overcrowded may be lifted at any moment when the foliage has died down and be replanted forthwith. There is no need for drying off. A necessary evil in the main, it is the reverse of beneficial to those sorts which incline to almost perpetual rooting, of which the popular Narcissus Poeticus ornatus furnishes a good example. Division of the bulbs would be necessary in a case like yours, and, depending upon where they play their part, some sorting into sizes also. If, for example, they are used in beds for flowering near the house, the largest only should be planted in such places, and the smaller elsewhere. If for woodland planting, no sorting would be necessary, while a much thinner distribution of the bulbs should be the rule. In any case, let the replanting be done in fresh, well-cultivated ground. The spraying of Potatoes is referred to in THE GARDEN for April 21, page 136.

THE GREENHOUSE.

ERITRICHIUM STRICTUM AND PHYTEUMA HUMILE (*Lawrence Jones*).—The correct name of the first-named plant is Cynoglossum Wallichii, an erect-habited, rather coarse-growing subject of 2 feet to 3 feet high, with small

blue flowers. It is a native of Nepaul, and of doubtful hardiness in the open in this country. It is not often seen in cultivation. The Phyteuma is a grassy-leaved species most nearly approaching P. hemisphæricum in its roundish heads of violet blue tinted flowers. Both foliage and flowers are, however, larger than in the last-named species, though neither is, in our opinion, first class from the decorative standpoint. It is from the Eastern Alps. We know of no synonym for it.

GARDENIA AND PANCRATIUM FOR INSPECTION (*F. H. H.*).—The Pancratium appears to have been attacked by bulb mite. If other bulbs show similar injury, steep them for about ten minutes in water at 110° Fahr. There is no disease in the Gardenia, but something wrong in its treatment. Try watering once or twice with a solution of iron sulphate, 1oz. to the gallon of water. This may restore the green colour. The annual is Limnanthes Douglasii.

ADVICE ON CHRYSANTHEMUMS AND VARIEGATED WEIGELAS (*Mrs. H.*).—By not giving the names of the Chrysanthemums concerning which you enquire we are somewhat handicapped in advising thereon. Your better plan, however, will be to pot them in single pots as soon as possible, and in so doing avoid damaging the roots. The soil should be mainly good fibrous loam, with a little well-decayed manure and sand. As soon as the plants take hold of the new soil they may be cut down to within 6 inches or 8 inches of the pot, and when they break out freely they may be shifted into their flowering pots. When potting off the cuttings they should be put into pots only large enough to take the roots comfortably. Most probably 5 inches in diameter will be a very suitable size. From these they may be shifted into pots about 8 inches across, in which they will flower. As the season is so far advanced, this size will in all probability be quite large enough. The variegated Weigelas concerning which you enquire are quite hardy, and may be safely planted out. As you have grown them in a warm house, it will, of course, be very necessary to thoroughly harden them off before planting outside. With regard to pruning, they need nothing more than the shortening back of any straggling shoots and the cutting out of any old and exhausted ones. Should you wish to keep them in pots, they may be repotted at once in some good loamy soil. Even in this case they will be better if plunged outdoors during the summer months, taking care that they do not suffer from the want of water. The same remark will apply to them if planted out.

ROSE GARDEN.

BLACK SPOT ON ROSES (*Mrs. J. E. C.*).—There is no known preventive of this fungus. Try spraying with Jeyes' Summer Wash; it may check its ravages.

LONG-STEMMED ROSES FOR CUTTING (*A. B. C.*).—You do not say if the Roses are for forcing or for outdoor culture. Assuming for the latter purpose, a good crimson variety is Richmond; another, Captain Hayward. Ulrich Brunner is also a good light red. Lady Hillingdon would be a good deep yellow, but perhaps Melody would be the best if only one variety was required. Frau Karl Druschki is certainly a fine white, but many are growing Molly Sharman Crawford instead. Oraoenta is not suitable for your purpose. Most of the large-flowered Roses may be grown with long stems. It is more a question of culture, for if you desire long stems it is necessary to prune very hard and confine the growths to two or three only.

FRUIT GARDEN.

BLACKBERRIES.—Which is the best of the following: (1) Wilson Junior; (2) Parsley-leaved; (3) Rathbun (American Giant)? Are they equal in flavour to the wild English Blackberry?—MAIDA VALE. [We have referred your enquiry to Mr. E. A. Bunyard, who replies: "Wilson Junior is quite good on a stiff clay, but not at all on sandy soils. Rathbun I cannot do at all well. Parsley-leaved is not an American kind, as so many people think, but a form of our own Blackberry, and quite the best to grow in this country, in my opinion. It has the true Blackberry flavour. There is a still better one I am growing on, also a form of the British Blackberry; but that is another story."—ED.]

YOUNG VINE SHOOTS SHRIVELLING AND BREAKING OFF UNACCOUNTABLY (*C. H. S.*).—It is not unusual to find young shoots breaking off in the way yours have done, especially late, strong-growing varieties such as Gros Colmar and Gros Maroc. They are exceedingly brittle at this stage. It is difficult to specify any one particular cause in your case. We can only say that generally the cause is due to some injury to the shoot in the first place, either by burning, due to faulty ventilation, to bad quality glass in that particular part of the roof, or by attempting to tie down the shoots too soon. Sometimes the injury is caused by an attack of a very minute species of red spider. We cannot trace any of these on the shoot sent.

KITCHEN GARDEN.

YOUNG HOPS AS A SUBSTITUTE FOR ASPARAGUS (*J. L., Manchester*).—Yes; use shoots up to 9 inches in the case of Hops. Tie in bundles, cook, and serve like Asparagus at this season. These are frequently found growing wild in hedgerows, and are easily gathered. As you suggest, the plant would only have an ornamental value after the young shoots are removed. Mr. Beckett's book on vegetables would be helpful to you. It may be obtained from the author at Aldenham House Gardens, Elstree, Herts; price 5s. 6d. post free.

SIZE FOR A MUSHROOM-HOUSE (*J. J. H.*).—A good width for a Mushroom-house is 11 feet. This will allow for beds 4 feet wide to be formed on either side, and a 3-feet path in the middle. The length of such a house must naturally be determined by the largeness or otherwise of the supplies in demand. A house 20 feet long should provide a fine supply. There should be three beds on either side, the floor bottom being one, the middle next, and afterwards the top one. The depths of the beds when made up with manure should be 11 inches. Between the surface of one bed and the bottom of another there should be a clear space of 2 feet for working purposes, so that the height of the walls should be about 12 feet. The best roof you can put over such a house would be a thatch of Ling or straw. It keeps the house cool in summer and warm in winter. Zinc would be the worst material you could use. Hot-water pipes.—There should be one flow and one return 4-inch pipe, fixed by the side of the path and running the whole way round it.

MISCELLANEOUS.

BOOKS ON BRITISH TREES AND BIRDS (*R. H. B.*).—Mr. Step's book on trees and that by Professor Groom on "British Trees" (Cassell and Co.) would probably serve the purpose you have in view. A larger book with keys for identification is Professor Marshall Ward's work, designed for the identification of trees from almost any portion. Stonham's "British Birds," with capital black-and-white plates, and Varrell's "British Birds" are probably the best for general purposes.

BOOK ON FUNGI (*J. M H.*).—Cooke's "British Fungi" or Badham's "Esculent Funguses of Great Britain" would probably suit your purpose.

APPLYING POULTRY-MANURE (*Torquay*).—Poultry-manure should be used at about one-eighth the rate of horse-manure, and may be used, where desired, straight from the run, scattered on the surface of the ground and hoed in, or if stored, must be put in a quite dry place and is best mixed with some dry earth.

NAMES OF PLANTS.—*T. O. C.*—1, Salvia rutilans (Pine-apple Scented Sage); 2, S. fulgens; 3, Ruellia Portellæ.

Kew Guild.—The annual general meeting of the Guild will be held in the Lecture Room, Royal Gardens, Kew, on Saturday, June 2, at 6 p.m.

Wheat in Canada.—The Board of Agriculture and Fisheries have received the following information from the International Agricultural Institute: "The area under winter Wheat in Canada is estimated at 899,000 acres, or 18 per cent. below the corresponding area sown last year."

TRADE NOTE

MESSRS. J. WEEKS AND CO.

WE understand that the old-established business of J. Weeks and Co., Horticultural and Heating Engineers, Chelsea, having had their offices at 72, Victoria Street commandeered by the War Office for the period of the war, have taken temporary offices at 92, Victoria Street, S.W.1, to which address all communications should be addressed until further notice.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

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Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

NO industry has had as little support from the powers that be as poultry husbandry! No national pursuit has had more set-backs! It has always lacked good leadership and has taken the name of "Cinderella" among agriculture. Not until the war started did the Board of Agriculture realise that there was such a thing as the poultry industry, and then producers were implored to "keep more and better poultry." Although in the early stages of the war producers carried out the motto of "business as usual," they did so at a heavy loss. I am quite sure that no other group of food-producers acted so loyally or so promptly.

Another Set-Back.—The Board had until then quite ignored the noble poultry industry and had on no single occasion indexed it under *agricultural* pursuits. The departure was greatly welcomed and one and all were looking forward to the time when poultry would take their place among the most profitable stock on the farm. Another bombshell, however, has been dropped. The matter was brought to a head by a few lay writers who take a delight in scribbling sensational stuff by the mile. One writer in particular drew attention in the *Daily Mail* to the fact that the hen was eating our bread. Biddy's daily ration was placed at 4oz. of corn per diem, which he alleged worked out at 91lb. a year. He then pointed out that these 91lb. of wheat would make 86lb. of bread.

Feeding of Layers.—This very Professor had evidently forgotten the fact that for many months an Order forbidding the use of "milling" grain for poultry had been in existence. He also overlooked the fact that this was not his first contribution to the sensation Press on poultry culture. Not many months ago in the *Evening News* I find him going "all out" for poultry and showing how *each hen would return a gross profit of* 30s. *per annum*. When referring to his notes on feeding these thirty-shilling-profit layers, I notice that he recommends for each bird "4oz. of dried food per diem, chiefly wheat, fish-meal and clover meal, which ration is ample for maintenance and egg-production." Articles in the general Press on the lines of "Fortunes in Egg-shells," "Guineas from Guinea-fowl," &c., do more harm than good and the noble poultry industry is worthy of better literature.

Clearing Up Waste.—If we had no fowls there would be much waste. All kinds of waste materials find their way to the fowls that would otherwise have to be lost. Inferior grains, wheat damaged by water and dried (useless for human purposes), scorched wheat (through fires on vessels), mill sweepings, raisin and grape stones, weed seeds, &c., are what Biddy is treated to. As regards maize, only 60 per cent. can possibly be used for human food, and the remaining 40 per cent. is available for poultry. There are not enough plants to grind down oats, and as it is still prohibited to use more than a small percentage of barley in bread-making, there should be large supplies of this grain available. Oilcakes would go a long way to help us over the difficulty, and they are the least bulky of all imported foods.

Better Prospects.—The original drastic Order from Mr. Prothero that "no more poultry should be kept than could be fed on scraps and tailings" literally meant total ruin for the poultry industry. One could see that behind the ruling was the past history of the hen in the hands of the farmer, who has never really understood the laying fowl. Since my last notes appeared my readers will be glad to learn, an advisory committee of practical poultrymen has been set up to be available for consultation by the Board of Agriculture. To the recently inaugurated National Utility Poultry Society and Mr. W. G. Tarbet, its secretary, is credit due for these activities. The following instructions have just been issued:

> Confronted with a shortage of grain and of feeding stuffs for livestock, the feeding of pigs and poultry on the large and lavish scale of the past cannot be justified. Now that the conservation of human food has become the dominant consideration, the President of the Board of Agriculture has found it necessary to reverse his previous policy as regards pigs and poultry. The old policy of encouraging them was perfectly sound while there was corn as well as other feeding stuffs to spare. There is no need, it is stated, for an immediate and wholesale slaughtering of pig and poultry stocks. It would be foolish, for example, to kill laying birds just now, after they have been brought to their most productive period. A supply of eggs for the wounded, for invalids, and for children must be maintained. But egg-production must become the sole object of the poultry-keeper, and fat poultry must for a time disappear from the table. As the season advances, the older and less profitable birds must be eliminated and the stock brought down till it comprises only the very best layers. Except for these purposes, no more fowls must be kept than can be supported on grass, greenstuff, stubbles and waste food, and even for the good layers and breeding stock good corn must, as far as possible, be replaced by other things.

Poultry in the States.—With a special advisory committee now active, and composed as it is of progressive men keeping fowls on modern methods, we may expect a fair chance. In the States poultry husbandry is referred to as the "Billion Dollar Industry." It is fostered by the powers that be and is considered more valuable than the combined wheat and oats output and most of the other chief pursuits—industrial or otherwise. The census of 1910 elicited the fact that over 587,000,000 fowls were kept, and there is no reason why the poultry industry of the United Kingdom should not hold the same important position.

Poultry in the United Kingdom.—The census of 1908 showed that in Great Britain the head of poultry totalled just over 18,000,000, and the 1912 census that Ireland had a total of about 14,000,000. Financially, the position in pre-war days was that we consumed yearly in the United Kingdom eggs and poultry to the value of £27,000,000, of which our home produce realised £15,000,000, leaving £12,000,000 to be spent each year on imported poultry and eggs. The great strides made since war broke out has altered this serious state of things, and it would be a great pity if poultry-keepers (not to forget the nation) were robbed of their objective. The poultry industry of the United Kingdom is capable of a yearly production of over £100,000,000, and only in recent years has poultry husbandry been taken up by the proper people. A better class has joined the ranks, and this has meant the application of modern methods which are so essential to success. Younger and more progressive farmers have come along and admit that under scientific treatment the hen is highly remunerative and earns her place among the livestock on the farm.

Home-Grown Foods.—I shall from week to week deal fully with the question of feeding poultry and refer to foods that so far have not been widely used for fowls. I hope all my readers will keep my contributions filed for future reference. Meanwhile, full use should be made of clover-meal, alfalfa (or lucerne) meal and meat-meal, or fish-meal. As much produce as possible should be home grown, and in my next article I shall deal with suitable crops. Here in passing I may mention the value of lucerne and clover, which can be grown extensively for use in both its green and dried forms. Cattle cakes—cocoanut, linseed, palm kernels, &c.—can be used in moderation and will help to "bulk" the mashes.

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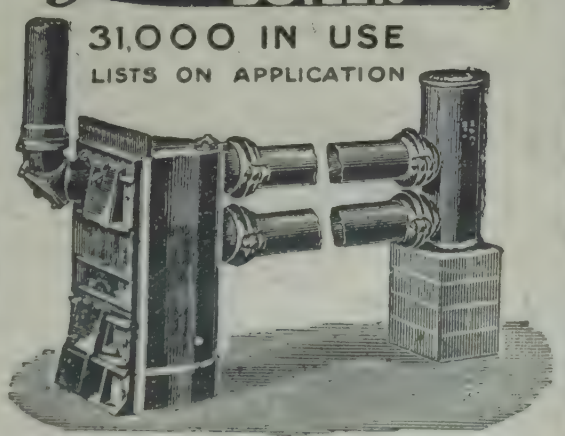

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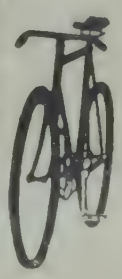

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

VOL. LXXXI.—No. 2375. SATURDAY, MAY 26, 1917.

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THE GARDEN.

No. 2375.—Vol. LXXXI. NOTES OF THE WEEK May 26, 1917.

IN order to prevent the loss of Potatoes from disease, Mr. R. W. Ascroft has been authorised by the Director of Horticulture (Food Production Department), 72, Victoria Street, Westminster, to make arrangements to enable all allotment holders, gardeners and small cultivators generally to spray their crops. Individuals can greatly assist by joining or forming small local societies with a view to having their orders submitted in bulk by the secretary.

Materials for Spraying.—Arrangements are being made for the supply at cost price of spraying materials ready for use. Copper sulphate and soda put up in small bags and packed in wooden cases holding sufficient to spray 1½ acres twice will cost 24s. a case. Where individuals require only small bags of chemicals, they should arrange with neighbours to send a combined order for not less than one case. By so doing they will save the railway companies unnecessary handling of goods.

Spraying Demonstrations.—For the purpose of organisation the country is being divided as far as possible into county areas, for each of which an honorary organiser or supervisor will be appointed. The supervisors will assist local societies in preparing for the work of spraying. Societies are asked to help by sending in orders at once. Experts will be available for the purpose of giving demonstrations in spraying. Applications for their services should be made to the Food Production Department.

Knapsack Spraying Machines.—A committee of experts appointed by the Department, after testing the chief types of Knapsack Sprayers, has recommended the "Four Oaks," "Stonehouse" and "Mysto" patterns. Orders have been placed with the manufacturers for a supply of these machines. The first two types have external pumps and air chambers, and the latter an internal pump and air chamber similar to the French Vermorel type of machine. They are all made of copper, weigh when empty about 14lb., and hold from 3 gallons to 3¼ gallons of liquid. They are suitable not only for spraying Potatoes, but also for keeping fruit trees clean. They may be used for practically all washes except those containing sulphur. Knapsack Spraying Machines ordered from the Food Production Department may be obtained for £3 *inclusive of packing and delivery* to the nearest railway station. Instructions as to use will be sent with each machine. To secure early delivery, machines should be ordered without delay. Orders should be accompanied by cheque drawn in favour of the "Food Production Department" In order to save labour and paper, it is not proposed to acknowledge the receipt of remittances unless in any instance this is specially requested.

Planting in Light Soils.—Those who have poor, light soils to deal with will find that their vegetables will stand drought best if planted in shallow drills running from east to west. The advantages are easier watering when planting, rains collect around the young plants, and the hot noonday sun does not dry up the roots so much as when planting is done on the level.

Late Potato Planting.—The majority of those who cultivate Potatoes for profit or home use prefer planting the seed tubers fairly early in the season, while not a few take risks—wittingly or unwittingly—and plant far too early, with the result that the crop not infrequently suffers from frost. Opposed to these is an instance of very late planting, which may be of interest to those whose land is not yet ready or who have been unable to procure tubers for seed. It occurred within our personal knowledge, and consisted of a plot of waste land that for years had remained idle. Acquired late in the spring of 1916 and trenched in spare time in the evening, it was not till June was well in that it was fit for planting, the date of finishing being June 17. Notwithstanding a good crop was dug remarkably free from disease. Up-to-Date and Arran Chief were the principal varieties grown.

Sowing Maincrop Peas.—The injunction to "sow thinly," urged by writers on gardening from time immemorial, has, in all probability, become so effete by reiteration that it now means nothing to nobody. It must, however, be clear to all who have given any thought whatever to the subject that thick sowing of any seeds results in waste, and if in conjunction therewith "timely thinning" is also neglected, a decided shortage of crop must follow, since no plant can perform its functions unless given ample room to develop. But Mr. E. Beckett, in a recent lecture on vegetables before the Royal Horticultural Society, avoided the hackneyed and indefinite phrase to "sow thinly," and in relation to many things stated in definite terms the distance the plants should be apart. This was so with respect to Pea Quite Content, one of the tallest and strongest growers, and of branching habit withal. The plants should be 9 inches to a foot apart, Mr. Beckett firmly stated, a remark which astonished not a few ladies in the audience. But Mr. Beckett is a great believer in raising his plants under glass and subsequently transplanting, also of sowing only the best of carefully hand-picked seed, for, as he says in his admirable book on vegetables, "it is quite impossible to produce the finest Peas from small, badly ripened, cracked, or deformed seeds." By adopting precautionary measures such as these, not only are failures reduced to a minimum, but the quality of the produce is also high. Remembering that a pint may contain a thousand or even twelve hundred seeds—of certain varieties of Peas it may be still more than this—that quantity of highly graded seeds at four per yard, *i.e.*, 9 inches asunder, would suffice for a row at least 250 yards long; hence those who sow a pint of Peas in a 40-feet-long row, as is often done, are not only wasting much valuable material, but also taking the most effectual step towards getting a meagre and poor crop. For such deficiencies they will unblushingly blame the seedsman or the variety, or both, when indifferent cultivation may have caused it all. For open-air sowings of the larger and stronger-growing varieties of Peas, high quality seeds should be sown at least 5 inches or 6 inches apart, the plants to be thinned later, should occasion arise. Room for full development in the plant ensures not only an abundant yield, but also a continuous supply.

A Cabbage Tonic.—It is well known to gardeners that all members of the Cabbage tribe respond to fairly liberal applications of nitrogenous manures. In not a few instances at the present time—those more particularly where hoeing or light forking between the rows has been neglected since the frost and snow left us—the young plants have made but little headway and "hearting" is late. The baked surface soil I have seen in some instances is practically impervious to air and warmth, hence a great hindrance to progress. In such circumstances light forking or hoeing—the former for preference—is the remedy to apply at once, and with it a stimulant to energise the plants. Superphosphate of lime at the rate of 2lb. per rod, mixed with 1lb. of sulphate of ammonia, will in such circumstances constitute an excellent tonic.

The National Rose Society's Annual.—This excellent publication has just come to hand, and the editors are to be congratulated upon the varied and instructive information contained therein. Those who love the various species of the Rose will welcome Mr. Darlington's notes and illustrations, and he shows deep knowledge of the subject. Mr. Arnott discourses upon Roses in the rock garden and mentions many gems not generally known to rosarians. Mrs. Darlington has a word to say for the beauty of the Rose foliage, a subject intensely interesting to others besides rosarians. The "Rose Annual" would be well worth the small amount charged for it to non-members if it were only to read an article upon that dreaded fungus black spot; and if other Rose-growers are as successful as the writer claims to have been, this pest will soon disappear from our gardens. Rose perfumes, by that skilled rosarian the Rev. J. Pemberton, will claim many sympathetic readers; for do we not all love this precious attribute to a Rose now so sadly deficient in many of the latest novelties? Amateurs who contemplate forming a Rose pergola will find Mr. Easlea's suggestive hints of much value; and the vexed subject of manures is ably dealt with by Mr. R. Woosnam. To dwellers near manufacturing towns Mr. Worsey's article will be most helpful and encouraging; while the notes on new seedling Roses, by Mr. Courtney Page, will be eagerly read by those individuals who were unable to see them at the summer shows. These are but a few of the many excellent subjects dealt with by able rosarians. We have nothing but praise for the style of the book and its beautiful illustrations, and shall look forward eagerly to next year's Annual. We wish it were possible to produce it at the beginning of the year, so that the valuable information could be utilised before the planting season is past.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Lepidium Smithii as a Vegetable.—Conspicuous in hedgerows and in waste grounds in and around Broadstair is a kind of wild Cress, the Lepidium Smithii. It grows so luxuriantly and in such profusion that it almost takes sole possession of the soil, and I have often thought that it might be utilised as a green vegetable in a time of scarcity, such as we have experienced this spring. Accordingly, I cut some and had it cooked in water, though I now think from its succulent nature that it would be nicer cooked in the same way as Spinach, without, or with very little water. This Cress has no pronounced flavour; only a suspicion of acridity, and no unpleasant qualities. Carefully cooked and seasoned to taste, I venture to suggest that it would prove an agreeable addition to early spring greens. It is very hardy and is now (May 12) beginning to flower, and under cultivation it would doubtless prove highly productive. At all events it seems worth a trial. Growing wild, the crop is so thick as to afford enough herbage for a small dish within an area of a square foot. For cooking I only used the quite fresh leaves, together with two or three inches of the tops of the stems bearing the unopened flowers. In competition with other plants this Cress is one to two feet high in the early flowering stage, increasing to two or, sometimes, to even three feet. Since writing the foregoing lines I have eaten the rest of my cooked Cress as a salad with tinned salmon, and enjoyed it.—W. BOTTING HEMSLEY.

A Double-Flowered Morello Cherry.—Now that the Cherries are laden with blossom I am sending a few sprays of a double-flowered Morello Cherry which is seldom seen, although it is one of the most freely blossomed of them all. It is known as Prunus Cerasus Rhexii flore pleno. It is of smaller growth than the common Cherry (Prunus Avium) and lacks the grace and elegance of the Gean, but each year it makes a perfect cloud of blossom. It is a suitable companion to the slender Japanese Cherry or Prunus pendula, a delightful tree when it happens to evade spring frosts.—WAYLAND.

Barr Cup Holders.—I am very sorry I omitted in my notes on page 166 of THE GARDEN the name of Mr. Peter R. Barr as one of those who have held the cup established to keep green the memory of his father, "the Daffodil king."—JOSEPH JACOB.

Preserving Runner Beans.—Having read your article "Runner Beans as a Winter Vegetable," I find there are two most important details that should be added for the good keeping of the preserve: (1) Every layer has to be pressed with the hand as tightly as possible; and (2) when the jar is full, cover with a slate and press it down with a heavy stone so as to always keep the Beans under the brine. If a white skin appears on the top, as it generally does, let it remain till you want the Beans, then skim it off, well wash the slate and stone, and replace them on what are left of the Beans, well pressing them down.—A BELGIAN LADY.

Value of Phosphates in the Garden.—It is not probably realised that the main source of plant food which is lacking even in the good soil of a garden is phosphate. The supply in most soils the world over is small, and yet it is the most wanted of any, for it has no means of being supplemented from the atmosphere, rain or snow, and the process of preparing it by tillage is a very slow one. Nitrogen and potash are supplied pretty freely in manure and vegetable refuse of all kinds, but phosphates are often conspicuously small in amount, and even animal manure contains a good deal less of this than of the other two fundamentals. It follows from this consideration that if any artificial manure is used, phosphates should have first consideration, and, indeed, often nothing else is required, though if all animal manure is stopped, some other source of plant food must be added to phosphates before very long. Take Sweet Peas, for example. They can be grown well with superphosphate, and possibly some bone-meal as well, an excellent combination (though this includes some nitrogen), which permits them to grow luxuriantly year by year in the same ground. Peas and Beans, again, will thrive in it, if the season is not too dry, in a soil of reasonable fertility. It is often useful, too, when animal manure is plentifully used, to supplement its rather one-sided nature before referred to, and thus correct its richness, for phosphates act in some degree as a tonic as well as a food. Sands and gravels are specially benefited by phosphates, and are specially weak in them. It is here where guano and (steamed) bone-meal are so useful, superphosphate being of a more generally useful nature, though useful here as well. Phosphates are fundamental in all ripe fruit and matured produce, especially in seeds of all kinds, and this is sufficient indication of their great importance, and they tend to hasten maturity.—G. T.

A DOUBLE-FLOWERED FORM OF THE MORELLO CHERRY.

The Value of Mulching.—To most gardeners mulching and top-dressing are synonymous, whereas there is a considerable difference. Top-dressing should mean giving additional nourishment to plants by applying it on the surface of the soil, and may consist of a layer of fresh soil or anything manurial, from a light sprinkling of chemical manure to a heavy dressing of farmyard manure. The time of profitable application would be governed by the condition of the crop and the nature of the top-dressing. A mulch should consist of a layer of some loose material of little or no manurial value, and its object be to shade the surface of the soil and so conserve the moisture. In most gardens there is a fairly wide choice of material for mulching; lawn mowings, coarse grass and weeds, litter and such are very effective. It is the light soils that dry out quickly during drought that most require mulches. Mulching should not be applied until the middle of May, by which time the sun has warmed the soil; otherwise the application of a mulch would, by preventing this necessary sun-heat from entering, make the crops later. A mulch is of most value to such surface-rooting fruits as Peaches, Raspberries and Strawberries, among which hoeing is very inadvisable. The customary material for Strawberries is stable litter, from which the manure has been shaken out, and if placed around the plants just as they commence to flower will have been washed clean, either by rains or artificial waterings, before the fruits ripen. Lawn mowings should never be placed around Strawberries, as the short grass adheres to the fruits. In the vegetable garden, Peas probably respond most to a mulching, which will often be found to prevent attacks of mildew. All kinds of Beans—French, Scarlet Runners and Broad—also benefit from mulching, and much labour in watering is saved thereby. As a general rule, all mulchings should be removed about the middle of September, by which time the autumn rains have arrived, and the sun, having lost its fierceness, will give the soil a genial warmth.—A. CECIL BARTLETT.

Economy in Potato Sowing.—Some years ago, when a new variety of Potato was brought out, we bought 1lb. for 21s. There was a competition that year as to who should grow the heaviest crop from a weight of 1lb. We started the small tubers in a greenhouse to sprout, and when the shoots were well advanced each eye was cut out with a penknife, potted into a 3-inch pot, grown on in a cold frame, and turned out in May. The plants, then 2 inches or 3 inches high and the pots full of roots, were planted on ridges 3 feet apart, and earthed up two or three times. The crop when dug weighed close on 14st., being beaten only by one other competitor. The variety was Duchess of Cornwall. Adopting the same plan this year, except on a larger scale, the eyes were planted in flat boxes and grown on in an ordinary glasshouse. We have British Queen, Beauty of Hebron and Main Crop Kidneys all treated in this way, and the young plants, now

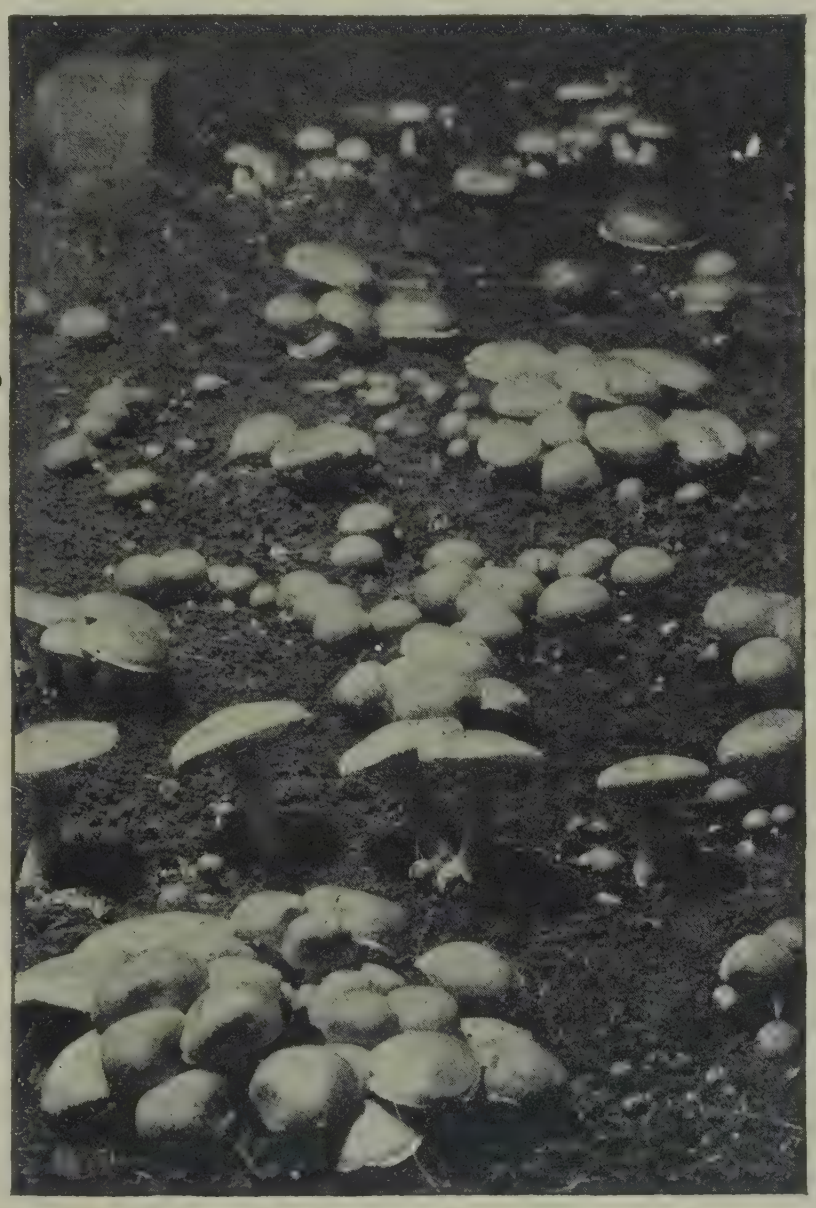
planted out, are 2 inches or 3 inches high and promise well. I may say that the Potatoes from which the eyes were cut came in well for kitchen use. From Potato ground of last year, all tubers left behind accidentally, as they start into growth, are carefully lifted as they appear above ground and are planted in rows. We find they succeed admirably.—E. N. WHITE, *Coollegrean, Waterford*.

"Gather up the fragments that remain that nothing be lost."—Here is a patriotic text for us elderly housewives just now! Some of us (I for one, I own) have felt grievously envious of younger and more able-bodied women who are doing special "war work," and wished we were thirty years younger that we might do likewise. Now, here comes our chance to do *our* little bit to help the nation. Among the "fragments" in the garden at this time are the fag-ends of winter greens, Kales, &c. I write to remind readers that if the remaining tips and leaves are cooked (with a bare teaspoonful of sugar in the water for about 3lb. of greenstuff), then put through the mincing machine, it will retain the tough, stringy parts and let only the tenderer portion pass through; and if this be chopped up with a very little margarine added and reheated, some excellent dishes of green vegetable will be the result. The old stems and roots of winter greens are very usefully got rid of by being buried at the bottom of the trenches where Runner Beans are to be sown or planted out; they there become ready to nourish the Beans just when the latter require them.—ANNE AMATEUR.

The Effects of the Winter in Devonshire.—The long-continued spell of wet and cold weather during the late winter and early spring of 1916–17 will no doubt be memorable in records of the varied effects on hardy and half-hardy plants in different parts of the country, especially in the Southern and South-Western Counties. Though the severity of the weather has kept me entirely indoors throughout the winter, I am enabled to see from my windows facing south some of the weather effects on plants that have never been the least affected during the fifteen or sixteen years I have resided here. Thus, in front of the house is a small lawn raised about 4 feet above the roadway and surmounted by a mixed hedge of Hawthorn, Laurustinus and Bay Laurel (Laurus nobilis). Of these, the Laurustinus, which began to show flower-buds at the end of March, had a severe check, the young flower-buds being shrivelled and quite brown. The plants have now (May 14) recovered and are flowering freely, and the foliage is very little affected. On the Bay Laurel the action of the frost or damp was peculiar. One plant in the hedge referred to covers a surface of about 3 feet by 4 feet, and every leaf is as brown and dry as though it had been scorched by fire; while in a south-east corner of the garden, only a few feet distant from the hedge, but sheltered by a big Portugal Laurel, a standard Bay tree about 10 feet high is at present bearing on its upper branches numerous spikes of yellow flowers, and, at the same time, on the lower branches the dead and shrivelled leaves and unexpanded flower-buds. These eccentricities would seem to point, not so much to the severity of the frost alone, but to the cutting winds accompanied by the extreme cold arising from the soddened earth.—JOHN R. JACKSON, *Claremont, Lympstone, Devon*.

The Vernal Squill.—This dainty little native Scilla with its small, upright flowers covers wide areas of the North Wales coast with a sheen of lilac blue. It appears local in its range, but where it exists it grows abundantly, seeming to prefer the thin sandy turf of sea cliffs or the well-drained slopes of limestone crags. To enjoy S. verna at its best in a wild state one should see it when its companion the Gorse is laden with its golden bloom. Between the flaming bushes the ground is often carpeted with a haze of the most delicate blue, the air heavy with perfume, and the skies melodious with the song of larks. Given all that, one will, for the moment at any rate, sigh for no alpine meadow nor the flower-laden plains of California. Nature is ever a supreme artist in her handling of blue and gold, but she excels herself in the above combination.—A. T. J.

Ægle sepiaria.—The hardy Orange, as it is often called, Ægle sepiaria, which has several synonyms, is hardy in a good many parts of the South and West of Scotland, as well as in certain places in the East. In a number of these gardens it does not flower well, and is only prized for its singular appearance, with its low growth, its spiny branches and ternate leaves. Its white, Orange-blossom flowers are only sparsely produced with some, but in other places it blooms with great freedom. At Culzean, the Marquis of Ailsa's gardens in Ayrshire, Æ. sepiaria flowers well but does not appear to fruit, and, so far as I know, it does not fruit in Scotland. It is frequently met with under the names of Citrus trifoliata or Limonia trifoliata. It was figured in the *Botanical Magazine*, t. 6513, as Citrus trifoliata.—S. ARNOTT.



MUSHROOMS IN A BED IN THE OPEN.

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MUSHROOMS AND THEIR CULTURE

JUNE is a good month in which to make up Mushroom-beds in the open, and preparations should be made without delay. If the beds are made up within the next few weeks there is every reason to anticipate a crop from early September. There are various ways by which these excellent edible fungi may be grown, though in no case can better produce be obtained than Nature brings so lavishly in certain seasons in the meadows and pastures, generally in the autumn. But by the aid of artificial culture Mushrooms may be had almost all the year round. The chief need to this end is found in having a properly constructed and heated Mushroom-house, which should be quite dark, have external air excluded, and be so warmed that a fairly high temperature may be obtained all the winter.

The Mushroom-House.

The best form of structure is a stout lean-to shed erected against the back wall of a vinery or other forcing-house, because in such case one back wall serves for both houses, and it is easy to secure from the same heating apparatus the needful hot-water service and heat. A Mushroom-house may be about 9 feet in width, having stout wooden shelves 3 feet wide, and fixed at about 24 inches apart, one above the other. In this way there may be a floor-bed and three shelves at the back, and a floor-bed and two shelves in the front. The alley running down between the shelves should be fully 2½ feet wide to enable a wheelbarrow to be brought in for removing or introducing manure and soil. Beds are made up in succession, the earliest for the winter made perhaps about the middle of August, and fresh ones each month or six weeks as may be found needful or desirable. The shelves should each have a stout wooden edge, some 6 inches to 8 inches deep, to retain the manure when the beds are formed.

Turning the Manure.

The manure with which to form a Mushroom-bed anywhere should be from stables, and only where horses are quite healthy. Using manure from horses taking medicine is very injurious to the spawn, often causing complete failure. This manure should be collected fresh every day and be thrown into a heap, either under a shed, or, if outdoors, where a few mats can be placed over it to throw off rain. The longer portions of straw should be shaken out and dried for other use; then, as the heap accumulates, a long stick should be thrust into it to enable its condition as to fermentation to be discovered. When the stick becomes well warmed the heap should be turned, the outer portion being placed within during the process; and should the manure show signs of dryness, a few cans of water should be poured over it with a rose to distribute it thoroughly as the turning proceeds.

Spawning.

It may be needful to turn the heap in this way twice or thrice, but the greater care exercised the longer will the bed when made up retain heat and the more satisfactory will be the spawning. The manure thus prepared should now be placed on one of the Mushroom-house shelves, and be well beaten down; a solid bed of from 10 inches to 12 inches, if possible, may be made over the entire shelf. It will certainly settle down 2 inches or 3 inches later. Then, when the heat is well up, which will be in a few days, but not dangerously hot, the surface of the bed may be spawned. For this purpose Mushroom spawn cakes should be purchased, either by weight or number, from some reliable dealer, and they should be fairly new, or at least not more than a year old. These cakes

may be each broken or cut into pieces about the size of a hen's egg, one cake making about eight, and these pieces, with the broad, flat side upwards, should be hard pressed into the manure, about 8 inches apart, all over the bed. Then a coating from half an inch to three-quarters of an inch in thickness of good loamy soil, free from weeds, seeds and insects, should be laid on, neatly patted down, and the whole well saturated with tepid water. After drying off a little cover up the bed with the long straw litter shaken from the manure and dried.

Examine the Beds.

Occasionally the bed should be examined, and if found dry a gentle watering given. In from six to seven weeks Mushrooms should appear, and pulling may go on for some two months. In the meantime, other manure may be collected and prepared for a second bed, and so the process would go on till April. Then indoor bed making must cease, unless a deep cave or cellar is available, as hot, dry weather is not conducive to the production of good Mushrooms by artificial cultivation. Mushroom spawn cakes are made by expert manufacturers, and cannot be produced with appreciable success by amateurs. They are fairly cheap, and it is wise to purchase them fresh, as needed. Carefully examined when broken, the cakes are found to contain a quantity of white thread-like growth, which is the fungus mycelium. When put into the manure bed and warmth and moderate moisture are furnished, this mycelium soon runs all about the bed, producing spores in all directions, and from these spores emanate the clusters of Mushrooms that presently appear. It is not well to cut them; they should be neatly pulled by twisting the stems slightly, and they then part from the bed and without injuring the mycelium.

Mushrooms in the Open.

To have Mushrooms on outdoor beds it is needful that the manure should be prepared in the same way as indicated to secure successful results indoors; but it is desirable that there be greater bulk. In this case beds are usually made up from the beginning of June until the month of October. They are of ridge form, having a base of about 2 feet 9 inches broad and the same in height, narrowing towards the top, which is rounded. The beds should be built up on a dry gravel or ash floor, and very solidly, the manure being trodden in the erection. When complete—and the length of the bed must be determined by the quantity of manure provided, then neatly finished off—it should be allowed to heat, which it will do gradually. The stick test may here be easily applied also. When warmth is good the surface should be spawned all over as advised for indoor beds, and also be coated with loamy soil that is fairly adhesive; then give a moderate watering with tepid water, and the bed should be at once covered up with a coating, fully 10 inches thick, of straw litter or similar material.

Beds made up in this way to stand through the worst winter months should have mats or specially made canvas covers placed over them to throw off rain and snow, also to protect them from cold winds. Poles or strips of wood tied to the covers keep them secure in windy weather. Much depends on the condition of the weather, but, as a rule, fully two months elapse before Mushrooms are ready to gather. The usual practice is to begin pulling at one end, clear off all large enough for use or sale, then give the beds a gentle watering and re-cover with the straw. Well-made beds, properly spawned and cared for, will give Mushrooms for from two to three months. Cases have occurred where beds insufficiently protected have been in hard weather frozen right through; then when a thaw has ensued they have gone on cropping for some time after.

Outdoor beds may be made up under a wall, the faces having a slight slope to the front, and when so sheltered prove very successful. No matter how or where made, it is essential that the manure be prepared properly, that the beds be made up solidly, and that heat be gentle and not fierce, as a fierce heat may burn the spawn or mycelium. The spawn cakes must be fresh and good and the spawning properly done. Soiling over is essential, and should always be with mould that is free from weeds and stones and which readily adheres to the manure. Finally, there must be no sparing of ample covering. Nothing is better than the long straw shaken from stable manure and dried in the sun. Hay is not advisable, because it is more brittle and often full of weeds. A little experience, provided ample materials be at disposal, soon enables even a tyro to grow Mushrooms outdoors successfully.

THE ALLOTMENT WEEK BY WEEK

By A. Cecil Bartlett.

IT is not sufficient to plant Potato sets at the correct distances in prepared ground and wait until the time for earthing the stems before doing anything further. To obtain a maximum yield—and now of all times this is most essential—much more is necessary. As soon as the Potato tops appear above ground, the soil between the rows should be stirred frequently. This may be done with a draw hoe or by forking the ground to a depth of 6 inches. Once weekly, until earthing becomes necessary, is not too often for this cultivation, which keeps the soil free and open, admitting abundant sun and air. In new allotments which have not been manured, some assistance after the Potato tops have become 4 inches high will be beneficial. If such as spent Mushroom-bed, well-decayed stable manure or matured road scrapings can be obtained, this should be lightly spread alongside the rows, where it will be incorporated with the soil at earthing-up time. At the same time a dressing of chemical manure will pay, either alone or to supplement the natural manure.

TURNIP WHITE MILAN.

The allotment holder will generally find it best to purchase the chemical manure ready mixed from a reputable dealer. He may rely on obtaining a Potato manure as complete in its constituents as present circumstances permit, and will be saved the bother of mixing. But those who desire to mix their own may try one part of sulphate of ammonia and two parts of superphosphate of lime, well mixed together and lightly dusted alongside the rows; 3oz. to each yard run would be a suitable quantity to use.

Beet seed should now be sown, and this being large, it will be found very easy to practise thin sowing. The best plan is to place three seeds together at 6 inches intervals in drills 12 inches apart, when the seedlings may be thinned singly in due course. By the time the seeds have germinated there will

SEEDLING CAULIFLOWERS READY FOR TRANSPLANTING.

be very little danger of loss from frost. Like all similar root crops, Beet thrives best in a rich soil that has been manured for a previous crop. If the subsoil is lumpy it will pay to first fork it over, breaking the clods before making the seed-bed. The weather has now so improved that a fine tilth may be readily obtained. The successional sowings of Peas, French and Runner Beans should be kept in mind and made at the proper time.

As an experiment it will be well to try to grow a few short rows of Haricot and Butter Beans, of which ample information has appeared in recent numbers of The Garden. It must be remembered, though, that while Haricot Beans are dwarfs, the Butter Bean is a climber and grows fully 6 feet high, requiring support similar to that of the Scarlet Runner. All Beans require a sunny, sheltered place and abundance of moisture during the season of growth.

Hoeing and thinning will now occupy most of the worker's spare time, and both operations should be performed as soon as possible. Thinning of vegetable seedlings should be spread over three visits, and so done gradually. The early varieties of Carrot and Turnip will require but little thinning. White Milan is a capital Turnip for the allotment holder. As fast as they are large enough for use the bigger roots should be pulled and cooked, and somewhat similarly Onions may be automatically thinned, the thinnings being of value as saladings and in the stew-pot. The hoe, which should be looked upon as a weed preventer rather than as a weed destroyer as well as a conserver of soil moisture, should be plied as often as circumstances permit, and particularly after any thinning has been done. This is to replace the soil around the roots and so help to prevent the ravages of various insect pests.

The seedlings raised in frames should now be large enough to be planted in their permanent places, but this should only be done when the ground is moist, and the seed-bed should be watered the day beforehand to ensure that the soil is sufficiently moist to adhere to the roots. Advantage should be taken of the showers we are now having, rain is far better than the watering pot. Those who can find time and have the convenience to pot a dozen or so seedling Cauliflowers and Brussels Sprouts for planting out a week or so later will find themselves amply repaid. The seedlings should be transplanted quite firmly and be well watered in any time during the next few weeks. A few short branches of any evergreen shrub, or paper, kept upright with a couple of short sticks, placed at the sunny side of these transplanted vegetables, will assist them to become rooted quickly.

BOTTLING FRUIT PULP WITHOUT SUGAR OR WATER

AT a recent meeting of the Royal Horticultural Society Mr. Vincent Banks, who is giving a most interesting and valuable series of demonstrations in fruit bottling, explained a very simple process for the preservation of fruit pulp. One of the great points in this process is that any odd bottles or jars can be used, and as there are scores of these lying idle in every country home and as vacuum jars are likely to be even more scarce and dearer, the advantage of this method is of immense value to the country at the present time. It should be explained that Mr. Banks is a leading expert in fruit bottling, and for years his exhibits at the meetings of the Royal Horticultural Society have reached the high-water mark of perfection.

But, curiously enough, the method he explained was recently brought to his notice by a lady who chanced to read in the *Times* of one of his earlier demonstrations. Mr. Banks related how he arranged an interview with the lady in question, and her demonstration in what he termed the "sulphur process" so impressed him that he decided to try it for himself and, if successful, to spread the knowledge for the benefit of others. The method is not so good as bottling by means of the vacuum process, but it is a good alternative, and the lady who brought it to notice has used it with success for over twenty years. The process simply consists of sterilising the interior of the jars with sulphur fumes, filling the jars with fruit pulp—Rhubarb pulp was used for the purpose of this demonstration—finally tying down with parchment paper after shaking more fumes from another jar on top of the pulp. The sulphur fumes are introduced by means of burning a sulphur taper or ribbon, and then inverting the jar containing the fumes until it is ready to be filled with pulp. Difficulty may now be experienced in purchasing sulphur tapers, as they are of foreign make, but powdered sulphur burnt in the jar in a deflagrating spoon will answer equally well, or the jars may be inverted over a little sulphur burnt in a saucer. The idea is as old as the hills—so old that it appears to have been forgotten. Generations ago the womenfolk used to sterilise jam-jars by burning a sulphur match inside them just before introducing the jam or pulp. The idea is splendid, and pulp made fairly stiff by boiling may be poured into the jars, tied down and stored away for future use, and no sugar is required to preserve it. The simplicity of pulping is for beginners a great point in its favour. The temperatures do not require watching nearly so closely as those of fruits which are bottled in water. The fruits or Rhubarb stalks (not leaves, which are unquestionably poisonous) are merely brought to simmering point and kept at that from half an hour to three-quarters of an hour. An open fire or any ordinary range can be used for this, and the regulation of the heat is not so particular as in the case of bottling fruit in water. When bottling fruit in water, the rather under-ripe fruit is best, as it is less liable to crack open; but for pulping, now that there is such a shortage of sugar, fruit should be selected which is as ripe and sweet as possible, and if the worst comes to the worst it can be eaten without sugar, though we are doubtful if anyone will venture on unsweetened Rhubarb. However, it may be stored until sugar is available; and this is a great consideration.

It will be found on experiment that the sulphur fumes discolour the pulp where they first come in contact with it—that is to say, around the sides and on the top—but the discoloration gradually fades away. Fruit preserved by this process is perfectly sound and wholesome, and in these serious times any method of preserving food without sugar is worthy of very careful consideration.

H. C.

TOMATOES IN THE OPEN

IF not already done, readers who have strong, well-hardened plants are advised to get these into fruiting quarters without delay, and others having no plants who cannot make up their minds whether to make the venture or not are advised to throw all doubts as to the ultimate result of planting to the wind, and at once order all the plants they can comfortably find room for. If these cannot be had locally, let them write to someone who advertises plants in the columns of this paper, and thus avoid the cheap rubbish offered by some firms of mushroom growth at prices less per dozen than the cost of a small packet of seed. When the plants are had from a distance, I prefer these to be straight from pots, for, thanks to expert packing, they usually arrive as fresh as when they left the nursery.

A HOUSE OF TOMATO MAGNIFICENT.
A seedling raised by a reader in the Isle of Wight,

The full treatment regarding soil preparation, &c., for this crop was given in an earlier issue of THE GARDEN; but, if I may be allowed, I would now like to supplement this with other seasonable hints calculated to induce early maturity and heavy crops of fruit.

Never plant a Tomato when the soil in which the roots are growing is on the dry side, but always give sufficient water to thoroughly moisten the whole ball of soil a short time before planting.

Plants from a distance arriving from boxes instead of from single pots invariably show signs of flagging. These will quickly revive if laid on a damp floor and lightly bedewed over through a fine-rosed can or syringe. After planting such as these in the open air, it will be well to arrange for a little light shading to be given during the hottest hours of the day, tiffany or coarse sacking answering well for this purpose.

Avoid overwatering at all times, but particularly so during the first few weeks following planting out, excessive dryness being less harmful than the other extreme. Keep the plants secured to whatever support is provided. If this is neglected, the work of months may be lost in a single night.

Carefully adhere to the rule of one shoot, one plant, removing all little shoots springing from the base, also others from the axils of the leaves and, later on, those often produced at the tip of the flower trusses. When once well established, growth is likely to be very fast, necessitating frequent examination of previously made ties, severing these before anything approaching tightness is apparent. A little neglect in this matter often means disaster.

On no account be persuaded to remove entire leaves, or even a part of the leaf, for some time to come. Those who indulge in this early defoliation rarely have a photograph taken of the crop. As a matter of fact, providing we get an average amount of sunshine this summer and the plants have at least a clear foot and a half for development, I would not remove a leaf until September.

Avoid undue haste in giving stimulants, either in a liquid or dry form, to young plants which have just formed fruit, for, providing the soil was properly prepared, no stimulant of any kind will be needed just yet. The great danger of giving stimulants simply because certain works on the Tomato advise this to be done when the first truss is set tends to an extraordinary amount of leafage, leading inexperienced growers to expect a crop very much in excess of what it proves to be. Added to this, plants freely supplied with manure rarely set fruit as freely as others to which water only is given. My own practice is to get a good set upon several bunches before applying stimulants of any kind, after which a little fish manure is stirred into the surface.

Although not generally practised, a good syringing overhead after a very hot day is equally as beneficial to these as to other plants it is usual to syringe regularly, this being especially noticeable where plants are growing near dusty roads.

It will lessen labour if plants growing in very light soil are mulched with half-decayed cow-manure, but even on the lightest of soils the heavy dressings used by many should be avoided. A depth of 3 inches serves the double purpose of conserving moisture and at the same time permits of sun and air reaching the roots.

F. R. CASTLE.

INSECT ENEMIES OF VEGETABLES

TIMELY MEASURES OF REPRESSION

THE gardener must be ever alive to the possible depredations of insect enemies, and experience will prove to him the advantage of using every phase in the cultivation of a crop for purposes of adopting some deterrent measure. Only by such steady and sustained effort can the fullest meed of success be won. Sound as this principle is, it must not be assumed that any modification is to engender futility. There are times when, by the adoption of some specific combative measure, most far-reaching and beneficial results can be secured. This is particularly evident at this time of the year. The revival of the active phases of insect life is almost, and in many instances quite, spontaneous with that of vegetable growth. The individuals of any species are now, or will soon be, bent on the perpetuation of their kind, and where there are now thousands there will shortly be billions. If, therefore, nothing has yet been done to anticipate and, if possible, prevent this dangerous increase where noxious insects are concerned, then prudence counsels effort in this direction without delay. What may be done now and during the next few months is indicated in connection with the most serious and very general insect pests here mentioned.

CELERY FLY.

1, *Celery fly.* 2, *Grub.* 3, *Chrysalis.*

The Carrot Grub.

No vegetable crop germinates more freely or promises better in its early growth than the Carrot. At the same time, no hardy vegetable is, as far as its future well-being is concerned, regarded with more misgiving by the cultivator. So general and insiduous is the pest that attacks it that a gardener may feel justifiable pride should he secure a clean crop of roots. The grub, as is generally known, is the larva of a fly which deposits its eggs near the crown of the young Carrot in May or early June, according to the climate and latitude. A good many of the combative measures recommended aim at the prevention of this egg laying by the use of liquid sprays containing such mineral oils as paraffin, carbolic acid, &c. Of these the paraffin 2½ per cent. solution is the most effective. The spray is prepared by dissolving a few ounces of soft soap in half a gallon of boiling water, and, while boiling, stirring in 2½ pints of paraffin. By thorough stirring a mass of butter-like consistency can be obtained, which can be dissolved and diluted as required. The merit of these unpleasant smelling sprays lies in their regular and frequent application rather than any other factor. Paraffin, a quarter of a pint to a gallon of sand or similar fine material, is found, when dusted weekly between the rows, to be useful in keeping the fly away. For simplicity and effectiveness, however, the writer has found nothing better than mulching between the rows—after a preliminary thinning and hoeing—with lawn mowings or other short organic matter.

The Celery Leaf Fly.

The operations of the leaf-mining maggot of this fly are familiar to most growers of Celery. Though not so fatal in its effects on the plant as in the case of the insects previously noted, even a mild attack depresses physiological functions, and good quality or size cannot be expected unless combative measures are adopted. In the case of a slight attack, or where the quantity of Celery grown is not great, the crushing of the larvæ between the finger and thumb is the surest means of keeping in check a pest that is annually increasing. The larger methods aim once more at the prevention of egg deposition on the part of the female fly, and dusting the leaves with soot and lime when moist with dew, or, again, spraying with paraffin emulsion or Quassia solution, proves effective.

The Onion Maggot.

This pest is not quite so general as the Carrot grub, but where it does occur it is quite as troublesome. In many districts spring-sown Onions are out of the question owing to their liability to attack, and growers have recourse to transplanting plants raised out of doors in the autumn or under glass in February. Leeks, too, are susceptible to attack. The life-history of the fly that gives rise to the maggot is practically identical with that of the Carrot fly, and here again the most effective preventive measures are those designed to prevent egg deposition. The paraffin emulsion applied weekly as a gentle spray has been found excellent. The part usually selected for the deposition of the eggs, *i.e.*, the neck of the plant, is fully exposed to the solution, and this no doubt accounts for the effectiveness of the treatment. Many growers aim at the prevention of egg deposition by covering the bulb with fine soil. This cannot, however, improve the keeping qualities of the bulb, and a more efficient alternative would be to dust the bulbs thoroughly with soot and lime in the proportion of one part of the former to two of the latter.

The Cabbage Root Fly

is another troublesome pest with a life-history similar to the Carrot grub and Onion maggot, and giving rise to grubs or maggots which are particularly destructive to young Cauliflowers or Broccoli. The principle of rotation seems to avail but very little in securing immunity from this pest, since plants are seriously attacked even when put out on land entirely new to the Cabbage family. The plants are often attacked in the seed-beds, and rigid examination of the seedlings should be made before transference to their cropping quarters. Liberal dustings of lime and soot, or paraffin and sand around the newly planted subjects will act as a deterrent. Without being able to vouch for it, however, it is probable that the American method of placing a disc-like collar of thick paper a few inches in diameter around the stem of the Cauliflower as close to the soil as possible would prove the superior method of keeping this pest at bay.

Of the four insect enemies so far dealt with, there are several generations annually; but, excepting the Celery fly, it is only the earliest or earlier that prove of serious import. The winter is passed in the pupal state in the soil, or sometimes in the refuse of the crops preyed upon.

The Leather-jacket.

Last but not least in this list comes the leather-jacket, the fat, legless grub of the familiar daddy-long-legs. It is particularly destructive this spring among young Cabbage and Lettuce plants. It carries on its nefarious work at night, when it may be caught in the act. It may also be captured by carefully removing the soil with a pointed stick from around the plants. C. W. M.

MR. RAMSBOTHAM'S LECTURE ON DAFFODIL DISEASES

BY THE REV. JOSEPH JACOB.

The Lecturer.

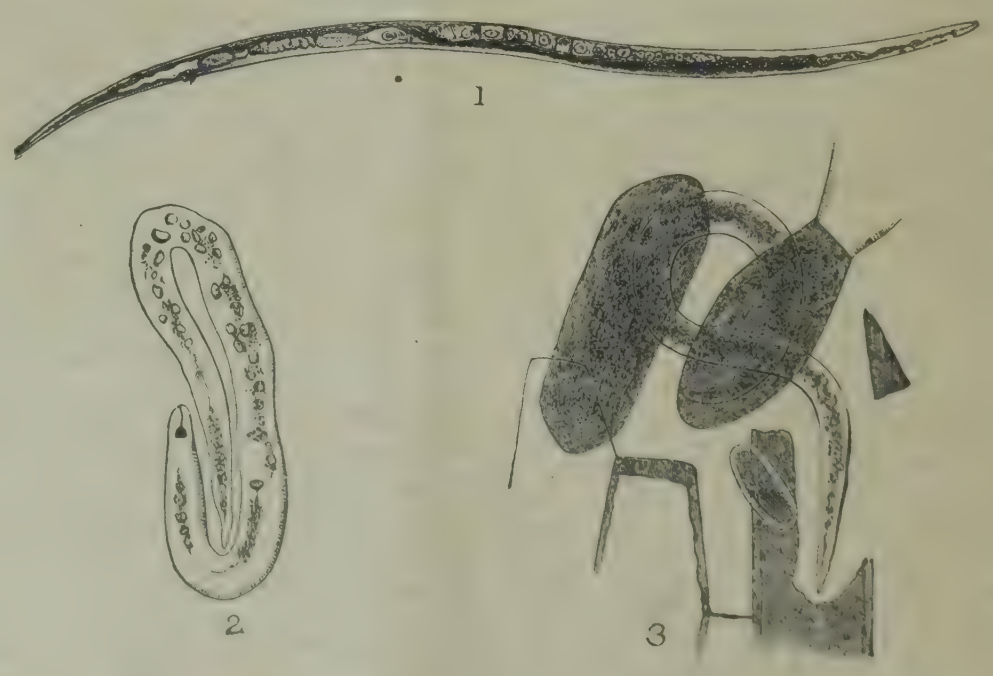
WHO is Ramsbotham? What is he? Mr. Ramsbotham is the scientist selected by the Royal Horticultural Society to lead the crusade against the enemies of the Daffodil, which of late have become far too numerous and insistent to be pleasant. With this purpose in view he began observations and experiments at Wisley in the early summer of last year, and he has also visited some of the chief bulb-growing districts in the British Isles so as to see for himself the mischief done and to acquire first-hand information from those on the spot.

The Audience.

The lecture was delivered at the Horticultural Club on the evening of May 8, and was attended by a large number of amateurs, traders and growers. I have never seen a bigger muster at any of the club lectures, nor, following the usual custom which obtains on these occasions, has there ever been a more animated, interesting and extended discussion afterwards. This must have been very satisfactory to the lecturer, and I am but voicing the unanimous opinion of all present when I say he on his part rose to the occasion. From another point of view, however, it was a sad gathering, for the interest created was an eloquent and unmistakable testimony to the seriousness of the outlook.

The Lecture.

As a preliminary the lecturer exhibited a collection of photographs and "pickled" samples of diseased bulbs in the exhibition hall during the day, and in the evening again set them up in the lecture room. These, together with the lantern slides, were just what one wanted to see and were a most valuable asset. The main points of the lecture may be summarised in a few words. They



EELWORM, THE PRIMARY CAUSE OF THE DAFFODIL TROUBLE.

1, *Eelworm.* 2, *Eelworm just emerged from the egg.* 3, *Eelworm egg in tissues of a plant. All highly magnified.*

were that, as far as the lecturer's investigations had extended, *everything pointed to eelworm (Tylenchus devastatrix) as being the primary cause of all our trouble*, and not, as so many had hitherto thought, a fungus—Fusarium bulbigenum. Out of a large number of examples which he had examined, in all but a negligible quantity eelworms were found, but comparatively seldom any Fusarium. Furthermore, by careful inoculation of healthy bulbs with eelworms, all the typical symptoms and destructive results of a natural attack had been set up. This is as far as the lecturer has got up to the present, and I am sure he will like people to know that his work is still only in an embryonic stage. Confirmative, preventive and curative experiments are still in hand, and it must be some months yet before anything more can be definitely stated. In our present state of knowledge the best thing to be done when we find ourselves with diseased bulbs is (1) if they are few and isolated, to carefully dig each one up, making for the purpose a round hole about 8 inches in diameter and about 1 foot in depth, putting some lime in the bottom and leaving it open and unfilled; or (2) if the attack is widely spread, lifting and burning all bulbs in the diseased area, then digging a trench 10 inches to 12 inches wide all round it, and by means of a crowbar or strong dibber making holes 1 foot deep, into which carbon bisulphide must be poured at the rate of 1oz. per square yard (the holes being at once filled up).

The signs of the disease are: In the foliage an unhealthy, curved putting forth of leaves, the appearance of which has been likened to ram's horns, and in the bulb when cut transversely rings of brown tissue, which in a longitudinal section may be seen to begin at the top, and could one only see the disease spreading, would be observed to gradually get lower and lower until the base was reached, after which, in a short time, the whole bulb would become rotten.

The Discussion.

The animated talk which followed disclosed considerable differences of opinion as to both the primary and secondary causes of the disease, and also as to what was the best method of dealing with it. Mr. William Barr said that his firm had found immersing the bulbs for an hour in water of a temperature of 110° very effective. Potash also did good.

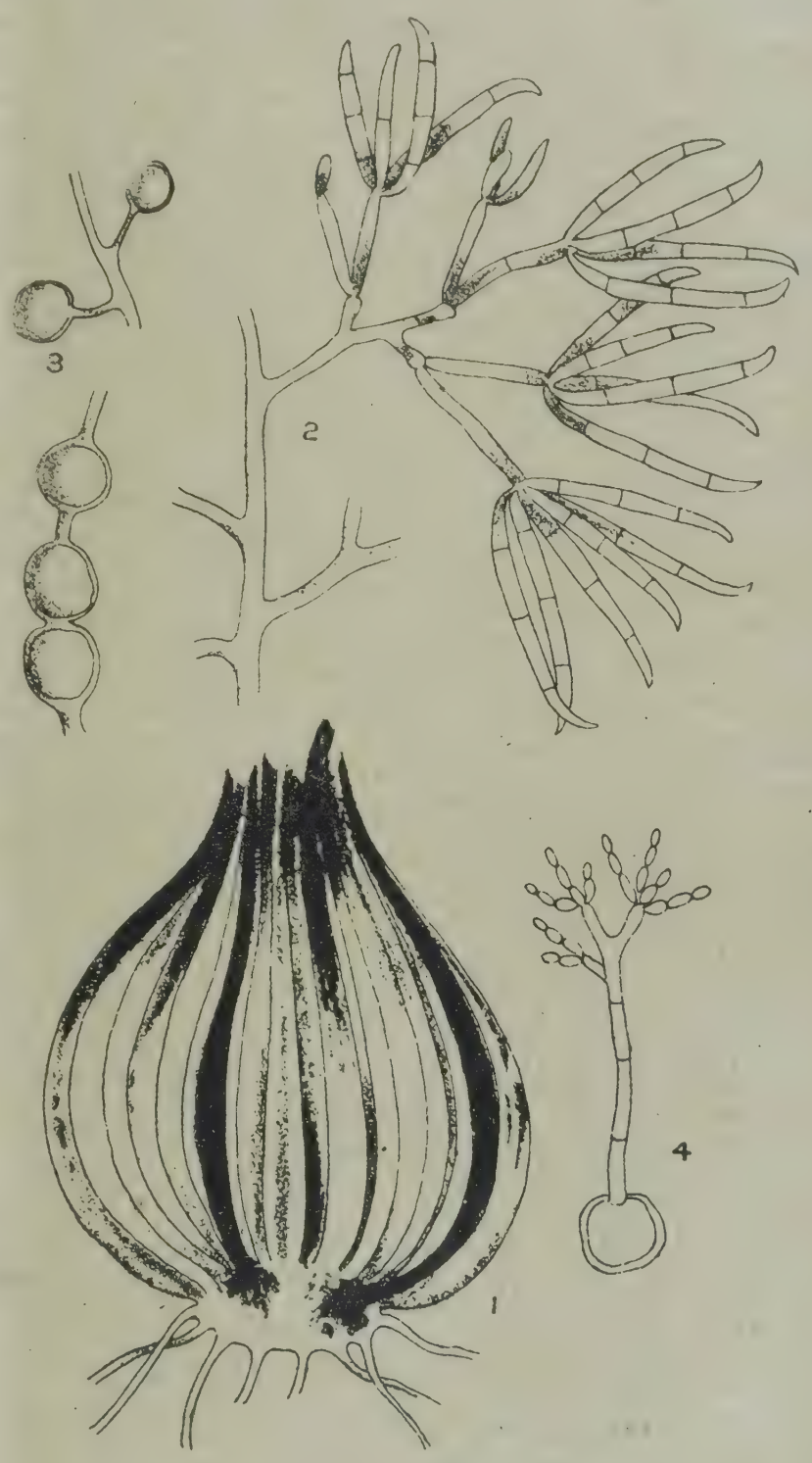
Mr. Frank Law of King's Lynn argued that the eelworm was only a scavenger, and that the disease was caused by wrong treatment of the bulbs when they were lifted and being dried. Seemingly, both he and Mr. Dent of Spalding have no dread of anything but the "Dutch pig," and of this they both have a holy horror. Luckily, the beast is very rare; the two gentlemen put together have only seen three specimens, and they do not want to see it again! [This is a most mysterious foe of which we should be interested to hear more. Is there really such a new horror in store for us or does it exist only in imagination?—ED.]

Let us hope Mr. Ramsbotham will be able to make our common foe, Tylenchus devastatrix, equally uncommon. Good luck to him in his endeavours.

DAFFODILS AT WESTWICK

IT was a very warm day (May 11) when we went to see them. "There you are," said the genial George Davison. "They are five weeks behind time, and they haven't had anything done to them for two years, not even a hoe through." We had passed through woodland walks covered with superb blooms of Mme. Plemp, Mme. de Graaff, the chaste J. B. M. Camm and hosts of others till we came to Daffodil land proper. Here we stood aghast. Bold sweeps of Mme. de Graaff, Gloria Mundi, Agnes Howell, Horace, White Lady, King Alfred and others too numerous to mention were there. "Come on," said George (he will pardon me, I know, for being so familiar), "I want you to see these." "Well, well," said the tall one of the three visitors. "Let me get down and look at that trumpet. What do you call it? Megaphone? Most appropriate name for so huge a flower!". Besides, the large perianth was correspondingly bold. "That's one of my seedlings," said George; "but come here and look at these." Weardale Perfection and Van Waveren's Giant were but babies to them. Well-grown King Alfred blooms were pigmies to their counterpart in colour in this batch.

The strain of Mme. de Graaff he has improved beyond all dreams of a few years ago, and the flowers in many cases are whiter and daintier. They are all under numbers, and so coded that at a glance at the label and a book colour, form and pedigree can be told at any time of the year. Oh, that one could go on about these wonderful improvements! What an awakening there will be when they find their way to the exhibition tables! "Before you leave have a look round that corner." Another sight, if you please; Leedsii, incomparabilis and Poeticus sections of the very best from other growers. We look at a flower. "Ah! that was sent out by Engleheart; that, oh that's one of the Rev. Jacob's. These are Pearson's," and away we strolled again. Before I left I gave my last glance to a glorious patch of Will Scarlett. What beautiful shades of red, orange and gold there are in that cup, which its creamy perianth shows up to perfection! George had left these flowers for a year or two to young Ernest; and how he wished he could motor cycle from France just then to be with us and have a peep at them. In spite of trying to get beyond twelve coombs of Wheat per acre, or home-breds bringing home over £70 when a little over two years old—objects already achieved by Mr. Davison—he still rejuvenates and beams with pride at the wonders of his productions. "Where will it end?" said one, gravely. George said, "There is no end." AYTCH PEA.



DAFFODIL BULB ATTACKED BY FUSARIUM BULBIGENUM.

This disease is being investigated at Wisley.

THE LAND CULTIVATION ACT

AT a recent fortnightly meeting of the Romford and District Smallholders' Society the following resolutions were passed, and the secretary was instructed to forward them to the President of the Board of Agriculture, the Essex War Agricultural Committee, and Sir J. H. Bethell, M.P.:

1. "That this meeting of the Romford and District Smallholders' and Allotment Holders' Society begs most respectfully to call the attention of the President of the Board of Agriculture and asks his favourable consideration of the following matter: (*a*) The extension of the period allotted for the cultivation of small plots of land under the Vacant Land Cultivation Order, which expires in January, 1918; (*b*) suggests the necessity of an early announcement upon the matter, so that such crops as Parsnips, Leeks, Broccoli, and such other crops as are gathered during early spring, and require to be seeded at once, may be sown, and which the plotholder will fail to crop unless such an announcement is made.

2. "The society also suggests that such plots should be let to the plotholders at the expiration of the Order at a rental not exceeding sixpence per rod per annum, and in the event of any such plots being required for building purposes, then reasonable compensation should be allowed to the cultivator for any growing crops he may have to sacrifice."

One of the members was granted an interview, and he was promised that the whole question would be considered immediately. This promise was well kept, for in a few days the following communication was received from the Food Production Department of the Board of Agriculture:

"No. 1. 28114/1917. *April* 27, 1917.

"Sir,—I am directed to acknowledge the receipt of your letter of the 22nd inst. forwarding two resolutions with regard to the period allotted for the cultivation of plots under the Cultivation of Lands Order, 1917 (No. 2) and to the rents charged for such plots, and I am to say in reply that the Regulation 2L of the Defence of the Realm (Consolidation) Regulations, 1914, has been amended to extend to the tenure of land acquired thereunder until December 31, 1918.—I am, Sir, your obedient servant, Ern. Karstom (for Assistant Secretary)."

It is hoped now that resolutions will be sent from all over the country to the Board of Agriculture asking for a further extension of time, certainly till the end of March, 1919, so that such crops as Parsnips, Leeks and winter greens may be planted and harvested.

H. C. Smith (Secretary).

110, *Como Street, Romford.*

Green Maize.—Though an undoubted delicacy in America, this vegetable has not yet caught on in Britain, the result, probably, of the method of consuming it, which is not too refined. The cobs are gathered while the corn on them is green but has somewhat hardened; these are stripped of their sheaves, trimmed, washed, then boiled, and served at table whole, usually with melted butter. But it is difficult to remove the corn from the stems, except by holding the ends of the cobs in either hand and biting it off. This is hardly an acceptable process. Nevertheless, this green corn is, when well grown and properly cooked and served, delicious. Any early dwarf variety will cob well here if seed be sown thinly in a pan or shallow box in April under glass. When the plants are 4 inches in height they should be put singly into small pots, and at the end of May they will be strong enough to plant out singly into mounds, 2 feet apart each way, on soil that has been deeply dug and well manured. Late spring frosts should always be avoided.

NOTES FROM THE RIVIERA

By Edward H. Woodall.

ONE of the most useful of scarlet winter-flowering shrubs, Salvia gesneræflora, has, much to my surprise, developed a sport of soft rose Du Barri colour that is very attractive. I first saw it in a Mentone garden, where I was kindly allowed to take a cutting or two, but I do not know where or how it originated. It is particularly useful in half shade, where the delicate colour is not burnt by the sun, and has been much admired near the masses of white Iris, so abundant on this coast. I should think it would be a good plant under glass for English gardens, but it does not show to much advantage as a *small* plant in a pot, where it seems stunted.

Pteronia incana, as usual, scents the air at this season, and during the last three days, when a hot sirocco wind has been raging, its perfume is all the more powerful. It is not amenable, I fear, to pot gardening under glass, as I am told it is unwilling to flower under Northern skies. Though quite unlike it in every way, save in its wiry growth, its scent is as penetrating and powerful as that of Boronia megastigma, a very unusual quality among rayless composites. It has a special interest on this coast as *the* flower and scent that Queen Victoria loved most.

The long wet and cold winter rest imposed on the Roses has produced the most vigorous and luxuriant growth and abundance of flower, and it is quite noticeable that Asparagus also, which is a child of the North, is much finer and sweeter than usual, so there are compensations for everything; and I hope that when the long winter has gone, some advantages may be gathered from its wreck and devastation in places north of this region.

One result of the late spring is the wonderful promise of fruit. I never saw Cherry trees, Peaches, Plums, Pears and Apricots more full of swelling young fruits. Almonds are not so good, but Quinces cannot possibly carry the quantity of fruit that has apparently set. As there is such a scarcity of sugar, there will, I fear, be great waste of all this beautiful fruit, which cannot be carried away by rail or preserved at home. A small quantity may be bottled, and some of the Plums possibly sun-dried if the summer is hot, but the waste will be most unfortunate at such a juncture of affairs. May the fruit trees in England have an equally propitious time when they flower! [We have seldom had a finer display of blossom; Apples, Pears and Cherries are all flowering together in great profusion.—Ed.]

I often see notes about the Portugal Cabbage, or Couve Tronchuda. It is such a delicious vegetable when quickly grown, and eaten before the Turnip-like protuberance on the stem has grown hard and woody, that it is well deserving of a sheltered and warm corner, where it should be planted closely so as to shelter and draw up the young plants. When the first "bulbs" have attained the size of a *large Walnut* they may be thinned out and eaten stewed in a little gravy; so that a long continuance of cropping can be obtained from one plot. I cannot, however, insist too strongly on the necessity of eating them while still young and tender. The same thing has prevented the bulbous Celery, or Celeriac, from being really popular, because the "bulb" becomes too woody and hard when allowed to grow old. In this case, however, the newest varieties are infinitely more tender and lasting than that first introduced, now many years ago.

WISTARIA ON A HOUSE IN FRANCE.

I wonder how far it is known that the white Japanese Wistaria (W. multijuga alba) lives very well when cut in good sprays and used for house decoration. With a little attention in the way of cutting the base of the stem and changing the water, bold sprays will last a whole week developing their buds to the very end of the long racemes. With a few bold sprays of the white Lilac alba grandiflora a tall vase may be made most beautiful. The Chinese white Wistaria is such a fragile and fading beauty that it is of little use in comparison either for outdoor or indoor decoration, and it is worth knowing that the beautiful and apparently fragile white Japanese is so useful and lasting as a cut flower. It is also to be noted that it will thrive on a dry, calcareous soil, which is so harmful to the Chinese Wistaria, and is, generally speaking, much less affected by bad weather. Flowering as it does after the Chinese forms (except the little-known species W. brachybotrys, which blooms three weeks later), it often escapes the cold rains in May. I have never experimented on W. brachybotrys as a cut flower, and shall hope to give my impressions later.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

The Weather Prospects, in the South of England at any rate, promise a spell of drought; we have already had three weeks without rain. Although the soil is moist under the surface there, it is dry enough and not favourable to seed germination, and will, if it continues, interfere with the growth of many vegetables, especially Peas. The alert cultivator will take steps to guard against retarded growth from this cause. Mulching the surface about growing crops is quite the best method of conserving moisture in the soil. Half-decayed horse-manure, disused Mushroom-bed materials, leaf-mould, decayed vegetable refuse, or even short grass, are all valuable if laid on the surface 2 inches thick, particularly if the crops receive a thorough soaking previously. If mulching materials are not available, stirring the surface soil 2 inches deep is the next best remedy. If the soil is not allowed to crack, the escape of moisture is not nearly so great.

Tomatoes in the open should be planted without delay, assuming they have been well hardened off. Wherever a bare piece of wall or fence with a southern or an easterly aspect is available, Tomatoes of the Sunrise type will generally succeed. A little manure among the soil to give the plants a start is good, but too large a quantity is a mistake, as it produces too much foliage, the blossoms do not "set" freely, and the plants are more subject to disease should a spell of wet, cold weather set in in the autumn. When the plants are carrying a heavy crop of fruit, liquid stimulants can be given them to aid the swelling of the fruit.

Peas.—Sow maincrop varieties regularly every fortnight, well soaking the drills before sowing the seed, should the weather be dry. Protect the plants from sparrows, as soon as they show through the soil, by stretching black cotton along the rows a few inches above the plants. Earth up the rows early to keep the plants erect, and place the supports in position at once when the earthing is done. Put the supports more upright than is all too often done. The common practice is to lean the stakes inwards at the top, frequently so much so that the haulm falls down on each side for want of support.

Vegetable Marrows raised in pots should be planted out at once, not necessarily on hillocks, but the reverse. Scoop out a hole in the open 2 feet wide and 1 foot deep, place a foot of manure and soil in the site, and put out two plants. In this way the plants will suffer less from drought than if they are on a hillock.

The Hardy Fruit Garden.

Strawberries.—Finally hoe over the plants and "bed" them up with Barley straw, which, being shorter, is better than any other sort. As a whole the prospect is not quite up to the average. The plants have lost much foliage, which must affect the swelling of the fruit. Forced plants, where new plantations are required, are a capital way of adding quickly to the outside crop. Well soaked and planted at once, they will give a full crop next year.

Peaches and Nectarines on walls are promising for a full fruit crop. Disbud any surplus shoots regularly and without delay. Frequently the shoots are left too thick on the trees, resulting in unnecessary overcrowding, which is fatal to full crops of good fruit. On the slightest sign of green fly syringe with Quassia extract and soft soap.

Cherries on walls require strict attention to get rid of black fly, which is the greatest pest this fruit has to contend with. Prompt syringing with an insecticide will avert disaster to the growth. Neglect now may mean much damage not only to the future growth, but to the present crop. Stubborn cases should be dealt with by dipping the affected parts in a strong solution of tobacco water.

Fruit Under Glass.

Grapes.—Thinning the crop and the bunches is the most important detail in the vinery, with the exception of regulating the growth and the prompt removal of laterals.

Peaches and Nectarines swelling their fruits before and after stoning should receive copious supplies of water and stimulative food where necessary.

Melons are setting full crops, and should be regularly watered to ensure prompt swelling of the fruits.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Thinning of Crops.—In the earlier districts crops such as Onions, Carrots, Turnips and Lettuce will now be ready for thinning. Attend to this before crowding takes place and permanent injury is done.

Peas.—A good sowing of Peas should now be made, and in cold, late districts those who intend growing such varieties as Autocrat or Late Queen should make a sowing at once. Here we generally sow an early variety about the beginning of June, as we find the crop more dependable than those recommended as late varieties.

Cabbage and Cauliflowers.—Further lots of these will now be ready to go out, and if the natural soil is cold and heavy, a small quantity of old potting soil worked in with the trowel when planting will encourage them to start more quickly.

Earthing Up Growing Crops.—This is a most important point in the cultivation of most kitchen garden crops, and the work should be properly carried out. It is specially valuable in stiff clayey soils, where young plants have little to induce a downward tendency of the roots. Before earthing up, a digging fork should be used to loosen and break up the soil. It is surprising how quickly all the members of the Brassica family respond to this treatment. The earthing process besides stimulating growth and encouraging root action serves also to steady the plants against strong winds, and prevents that swaying which often destroys the roots. Both Broad Beans and Kidney Beans delight in this attention, and will repay the trouble by a sturdy growth and more abundant yield. Keep the hoes going freely among the crops, so that all weeds are killed in a young state, while the soil will be benefited generally, as hoeing checks evaporation and allows the sun-heat to penetrate the soil. It also allows the genial rains to soak in more freely.

Melons.—Attend to the fertilising of the flowers about midday, and as there is now abundance of sun-heat, the syringe should be used freely, as this not only keeps vermin in check, but also encourages fine fruit and foliage. Thin out the shoots occasionally and avoid overcrowding.

Tomatoes.—A top-dressing should now be given the early lot if the fruits are swelling freely; use a good chemical manure mixed with some loam. Watering should be carefully attended to, so that no dryness may occur at the roots. Equal care should be taken that the pots or borders do not get into a sodden state, as the Tomato quickly resents this. Keep all side shoots rubbed off and tie in carefully.

Plants Under Glass.

American Tree Carnations.—Attend to the disbudding and tying of these. We find the celluloid rings most convenient for this purpose, a boy or girl being able to get over a large number in a very short period. Some stimulant should be afforded the plants now that they are blooming freely, so that the flowering period may be extended as long as possible. Fumigate on the appearance of green fly, and pick off any withered or diseased foliage.

Sponging Plants.—With higher temperatures in the stove, mealy bug and other insect pests make their presence known, so foliage plants should be carefully sponged and cleaned as opportunity is afforded, probably the first wet day. Nothing is more beneficial to the health of the plants, not to speak of their appearance, than a thorough cleansing of the foliage. Plants that are addicted to attacks of mealy bug, scale, thrip, or red spider require great care in sponging, so that every vestige of either the insects themselves or their eggs may be removed. Add Fir Tree Oil or other well-known preparations to the water for the destruction of insect life.

The Flower Garden.

Polyanthuses.—Where these are past flowering they ought to be split up and transferred to the reserve garden where they may make good growth during the season. The beds can then be prepared for the reception of the summer-flowering plants.

Summer Bedding will now be in full swing, but tender subjects, such as Begonias, Dahlias and Heliotrope, should be left till the last. Thin out hardy annuals before the plants become drawn, choosing a showery day for the work.

Herbaceous Borders.—Tying and staking should be done as required. Always attempt to have the work done before the plants fall over. Keep the hoe going now so that weeds have no opportunity of growing and running to seed. Attention to this early in the season often saves days of labour later on. Sow annuals, such as Shirley Poppies, Mignonette and Candytuft, over the site of Daffodils or May-flowering Tulips that are permanencies in the border.

Coodham, Kilmarnock. JAMES MCGRAN.

CLEANING VEGETABLE GROUND

THE importance of a clean bed during the period of active growth is fully recognised by most growers, but weeds, like the undesirables of life, have a weakness for appearing just when they are least welcome, for in early spring so many little jobs are needing attention that the less prominent occupants of beds in the kitchen garden have to take their chance; consequently, where these are permitted to remain until of good size, when hoeing is out of the question, and apart from the fact that hand-weeding is a tedious and back-aching operation unless carefully performed, disturbance of the crops and its subsequent check to growth is inevitable.

Realising this, it is somewhat remarkable that the small grower pays so little heed to his garden after the crops are gathered in. The state of many during the early days of winter leaves much to be desired; weeds of all kinds are allowed to monopolise the plot, Twitch, Bellbind and Couch, like "Charley's Aunt," being "still running," while the healthy appearance of the all too familiar Dandelion and Dock may easily lead one to imagine they are there by right and not by chance. In these days, when it is incumbent upon us all to make the best of our ground and stable manure is only to be had at exorbitant prices, we should not allow these undesirables to extract goodness from the soil, but remove them as expeditiously as possible, burning all the old perennials, but burying such as Groundsel, Chickweed and grass at the bottom of a deep trench.

After removing these weeds, give the vacant plot at least an ordinary forking over, after which a good dressing either of gas-lime or builders' lime will be an advantage. Where gardens have been heavily manured for several seasons, an application of the latter often proves more beneficial than manure of any kind. F. R. C.

A COLUMN FOR THE CURIOUS

TRENCHER POEMS.—In looking through some old volumes of the *Gentleman's Magazine* I came across the following, which I thought might interest your readers. In its later developments the trencher apparently served as a dessert plate, and the under side was decorated with poems or mottoes, posies of flowers and fruits. The lines quoted are from a set of twelve decorated with flowers.

1. Honeysuckle.

Poison and honey from my stocke proceedes
The bee and spyder of me suckes and feedes.

2. Pea:

Peascods are restorative and hardly founde
When for . . . some wimen give a pounde.

3. Rose.

Esteeme of me as one in worth that standes
Sweetes I can give you, and water for your hands.

4. Marigold.

My leaves do welcome forth the sonne, and shuttes them at his fall.
A wife of such a propertie in thrift exceeds you all.

5. Carnation.

As snowe and blood together women weare
So seates my styppes within my mystris heare.

6. Strawberry.

And if thy fortune be advanced like myne
Often you thanst thy mystris lyppes betweene.

7. Cherry.

For dayntes I am served to make our gestes sit merye
For cherries out of season heers a charie.

8. Heartsease.

Nothing on earth can better please
Than a fayer wyfe and hartes ease.

9. Lily.

My roote sweet orris, my toppe a purple dye,
Princes ritche dames esteem my collars high.

10. Sweet Briar.

Deface me not, nor with disgrace doe sticke me
Though I am sweete, bryers have power to prick me.

11. Flower (unknown).

Sweete is my smell, but bytter is my taste,
Such are my giftes as good words badly plaste.

12. Flower (unknown).

I taste your wyne, and am a cordiale flower
And prove as women, some tyme sweete and sower.

I leave to others more expert to explain some references here obscure. It seems that these trenchers often served for post-prandial humour, the mottoes when turned up being held to apply to the user. Chivalry was, I fear, not an outstanding virtue of the wag who inscribed:

"I shrove his hart that maried me
My wyfe and I can never agree
A knavish quene by Jis I swere
The good mans bretche she thinks to were."

Or, again, by the same author, one imagines:

"If that a batcheler thou be
Kepe so still—be ruled by me
Leaste that repentance all too latte
Reward thee with a broken pate."

The seasoning of nourishment with moral precepts continued until comparatively recent times. The writer was brought up on milk from a mug which gave the stern warning, "Wine is a mocker, strong drink is raging," but . . . alas!—B.

"POTATOS" OR "POTATOES"?—Which? I suppose there is a right and a wrong way; or is it merely a case of doctors differing? The Royal Horticultural Society and a leading contemporary favour "Potatos." Other gardening journals, including THE GARDEN, together with many catalogues and books, prefer "Potatoes." The article is, of course, the same, though editors evidently "cook it" differently. With the above finally settled, there should be less difficulty in deciding whether "Tomatos" or "Tomatoes" is correct.—JAY.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

AUBRIETIA AND FORGET-ME-NOT (*C. E. A.*).—The correct colour of Aubrietia Bridesmaid is pale pink; hence the seedling appears quite distinct and worth perpetuating so far as can be determined from the small spray of flowers sent. Had you sent a fuller specimen showing growth, or a small plant, we could have given a more definite opinion as to its merits. If this is not possible now, you might submit it to us later on. The Forget-me-not does not appear to differ materially in colour from Blue Eyes and others of its class. As such it is, of course, quite worth growing, though not showing any advance upon the leading commercial sorts. In this tribe habit counts for much, and the true value of a variety can only be determined when grown side by side with the best. Many, we fear, are like you, and would like to get away from the vegetable to the flower garden just now for a change. All the same, we think our duty is quite plain.

HOW TO GROW POLYSTICHUM (*E. A.*).—The Polystichum appears to be one of the new plumose forms of P. angulare divisilobum—probably densum—which, when exhibited before the Royal Horticultural Society last year by Mr. Amos Perry, Enfield, gained an award of merit. In the plumose density of its fronds it is suggestive of Todea or some of the newer forms of Nephrolepis, surpassing both in beauty and grandeur, while more valuable to a larger number because of its hardiness. Despite the latter, however, if you would attain perfection in growing it, cold house or frame treatment will be found the best, particularly in smoky or manufacturing districts, though the bulk of Mr. Perry's collection is grown in the open, save for a specially constructed overhead lath screen to ward off the sun. A shaded pit or frame in a secluded corner suits admirably and, failing these, it may be grown in a cool, sequestered spot in the open where but a flicker of sunlight reaches it. All the varieties of its set grow well in loamy soil mixed with a third of its bulk of well-decayed leaf-mould and a slight addition of very old manure that has reached the powdery state. To this some sharp sand might be added. Cool, humid conditions during growth are of great assistance, also free supplies of root and overhead moisture. The present is a good time to pot or start the plants.

SILENE PENNSYLVANICA (*A. J. H.*).—We think you are in error as to the "wild Pink or Picotee" you found so plentifully in North China being identical with the "American Wild Pink," which is, so far as we are aware, confined to the American locality named. It is not, of course, a true Pink, and the inflorescences are invariably panicled, as shown in the illustration on page 167 in our issue of May 12. If the plant you refer to produced its flowers on single stems, it would most likely prove to be a true Pink, *i.e.*, a species of Dianthus, since more than one species of that genus belong to China. The most probable theory as to the continued expansion of the flowers of the Morning Glory in the circumstances mentioned is that it was due to the advanced stage of growth at the time, in conjunction with the somewhat succulent nature of the stem. Supported by the latter, the fully formed buds would quickly respond to the heat. This view is supported by the gradual diminution in the size of the flowers to the upper portion of the plant, where a like development of blossom had not then be reached. But that flowers of any sort should have continued to open for a fortnight after the stem had been detached and under such heat is remarkable in the extreme. Obviously, the support for the flowers was contained in the stem of the plant, and was drawn on by them to the limit of complete exhaustion.

NATURALISING NARCISSI (*A. H. R.*).—Your success with these in the "most unpromising dry, hard, woodland soil" and failure with "others planted in better soil" makes the case a little complicated, though it might have been more clear had we knowledge of the varieties in each case. Dry woodland soil is generally the least well suited for naturalising Daffodils, and it would interest us to know what varieties in your case had done so well in it. Occasionally it is found that some are indifferent as to moist or dry soils; cyclamineus, Bulbocodium, pallidus præcox, Queen of Spain and, more rarely, obvallaris are some of those occurring to mind. But, even so, the same kinds are usually more vigorous in moist soils. The "better soil" you speak of may itself be at fault—too rich, perhaps—or the bulbs may not have been sound. In the absence of details we can only surmise, and a fuller knowledge of the soil gained on the spot is the only way to arrive at a satisfactory conclusion. One of the best of all Narcissi for naturalising is N. princeps. Often a weed in dry soils, it gets knee-high and more in cool, moist loams, and goes on indefinitely. Quite safe, too, are the single incomparabilis varieties generally, Cynosure, Frank Miles, Beauty, Sir Watkin (which is also good near water), Stella, Stella superba, Barri conspicuus, Mrs. Langtry and Duchess of Westminster. The last two are white and of particularly good effect in grass, while graceful and free-flowered. Those good rich yellow trumpets Henry Irving and Golden Spur are alike valuable; while Emperor has no equal for boldness or fine effect. Good generally, it gets waist-high in deep, loamy soils near water. W. P. Milner and Mme. de Graaff are also of especial value. Varieties such as these are far better than the cheap mixtures offered, and which rarely give satisfaction.

THE GREENHOUSE.

WATERING CACTI OVERHEAD (*Mauve Poppy*).—We do not advise you to syringe your plant of Echinopsis overhead, more particularly now that the flowers are developing. It will, however, of course, require a moderate amount of water at the roots. When the blossoms are past, it will not do it any harm if it is stood outside in a gentle rain, but it must not be exposed to storms or heavy rain.

GENTIANS AND SAXIFRAGES SHOWN BY MR. G. KERSWILL, EXETER,
At the Royal Horticultural Society's Meeting.

FRUIT GARDEN.

BLACK SPOTS ON VINES (*T. O. C.*).—The black spots on the Vines are due partly to irregularities in ventilation and partly to attacks of thrips. Both should be carefully attended to in order to prevent a recurrence of the trouble.

INJURY TO GOOSEBERRIES (*P. W., Surrey*).—Birds have destroyed many of the buds and some branches have died probably through the attack of a fungus, but those sent are not long enough to enable one to say with certainty. Dead branches should be cut out.

PEAR FLOWERS GUMMING (*Budds*).—We cannot say without seeing specimens whether the gumminess of the Pear flowers is indicative of any particular trouble. They are not usually gummy, but there is a bacillus which at times causes gumming in the flowers; then their centres would be black. The Pear Psylla produces similar gumming on leaves, &c., and search would reveal this flat, green insect if it be present. Unlike the Apple Psylla, it hibernates as a living insect, not as an egg. Ordinary manure flies do no harm, but if house-flies are meant, they, of course, are likely to be dangerous. Probably sprinkling a small quantity of borax on the heap would be the best measure to adopt, while spraying with a weak solution of formalin, 1 part to 200 parts of water, would kill a good many.

MISCELLANEOUS.

WEEVIL FOR IDENTIFICATION (*F. S. J.*).—The weevil sent is a species of Otiorhynchus (picipes), and the larvæ from which it has come have probably been feeding on the roots of various greenhouse plants. We advise you to go into the house at night and spread a cloth beneath the infested plants; then suddenly shine a bright light upon

them. Treat the Vines, which are also likely to be attacked, in the same way. Shaking the plants would be an additional aid towards the capture of the pests.

NAMES OF PLANTS.—*W. J. H.*—A variety of Acacia armata.——*S. H. B.*—Amelanchier vulgaris ——*Somerset.*—Akebia quinata, China and Japan.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

A MEETING crowded with interest, beauty and variety was that held on May 22, in every respect a counterpart of many of the old-time gatherings of past decades. Tulips were in great force—quite a feast; while Orchids, hardy plants, Sweet Peas, Ferns, Carnations and flowering shrubs each gave their quota to a gathering of unusual excellence.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. J. W. Barr, Clarence Elliott, R. C. Notcutt, G. Reuthe, W. J. Bean, G. Harrow, E. F. Hazelton, J. Heal, J. F. McLeod, J. W. Blakey, H. Cowley, W. A. Bilney, Charles E. Pearson, R. Hooper Pearson, W. Cuthbertson, E. H. Jenkins, G. Paul, J. W. Moorman, J. Dickson, T. Stevenson, W. P. Thomson, Sydney Morris and J. Hudson.

Tulips were in great variety and beauty, and rarely have these handsome May flowers been seen in such perfection.

From Messrs. Dobbie and Co., Edinburgh, came a magnificent display, the best of a great race being arranged in big stands, which showed them to perfection. Good varieties were White Swan, Inglescombe Pink, Remembrance, Velvet King, Inglescombe Yellow, Nora Ware (heliotrope), Eclipse (crimson), La Tulipe Noire (glossy black), Louis XIV. (bronzy), Mrs. Moon and Ellen Willmott. These were but a few of the many fine things staged.

Messrs. Allwood Brothers, Hayward's Heath, showed excellent Carnations, Salmon Enchantress, Gorgeous, Bishton Wonder and British Triumph being exceptionally good.

Mr. Charles Turner, Slough, contributed a great bank of Lilacs in the cut state, Negro, Souvenir de L. Spath, Reaumur and Congo being the best of the dark sorts; while Mme. F. Stepman, Mme. Lemoine (double) and Miss Willmott (double) were the best whites. Charles Sargent is a good pale double Lilac. Magnolias and Pyrus Malus Sargentii were also shown.

The Tulips from Messrs. Barr and Sons, Covent Garden, W.C., were very fine, the firm forming a big centre with violet and heliotrope shaded flowers, such as Frans Hals, Remembrance, Valentine, Dal Ongard, Melicette and others. In addition Mrs. Moon, Andromaque (ruby red), Farncombe Sanders, Golden Bronze, and Goudvink (a fine bronze and gold) were a few of the best. A selection of English florists' Tulips were also staged.

Sweet Peas from Mr. Robert Bolton, Halstead, Essex, were of novelties only, Orange King, Victory (rose and blue) and Valentine (pink) being some of the best. The arrangement was rather crowded.

Charming alpines came from Messrs. R. Tucker and Sons, Oxford, Phlox Douglasii (blue), Anemone sulphurea, Aquilegia glandulosa, Viola heterophylla, V. pedata, Oxalis adenophylla, Viola Bertolinii (blue), Dianthus gelidus (a lovely miniature) and Pinguicula Reuteri (a most dainty thing) being among the best.

Very fine Tulips were staged by Messrs. Sutton and Sons, Reading, several sections being well represented. Moonlight (yellow), Toison d'Or (bronze) Bacchus, Cardinal Manning, Clara Butt, Diana (crimson), Dom Pedro (deep bronze), Rev. H. Ewbank (the best of the heliotrope shades), Fanny (pink) and Farncombe Sanders were all excellent. Sunbeam (cream and rose) was also beautiful.

Hardy spring flowers, Polyanthuses, Squills, Violas, Daisies, Gentians, Globe-flowers, Mossy Saxifrages and alpine Phloxes were well shown by Mr. G. W. Miller, Clarkson Nurseries, Wisbech. Habranthus pratensis (scarlet) was also shown.

Messrs. H. B. May and Sons, Edmonton, contributed an excellent batch of Verbenas in scarlet, violet and white shades, also Hippeastrums and a good selection of hardy and exotic Ferns. Of the latter, Adiantum Veitchii was very pretty with pinkish fronds, and the New Zealand Oak Fern was shown with new and old fronds, the latter very suggestive of its popular name.

Messrs. Paul and Sons, Old Nurseries, Cheshunt, showed some charming shrubs, Exochorda Albertii grandiflora, with 3-feet-long sprays of white blossoms, being one of the best. Pyrus Malus Sargentii (white) and Amelanchier asiaticus were other good things. Xanthoceras sorbifolia was also noted.

Interesting single Pæonies with Regelio-cyclus and other Irises were shown by Mr. H. J. Elwes, Colesborne, though, unfortunately, none was named.

Mr. J. Douglas, Edenside, Great Bookham, had some lovely Auriculas—Beauty (green edge), Kaffir, Mrs. Henwood, and George Lightbody (a nearly sixty year old show variety and still the best in its class). Mrs. J. Douglas is the best blue alpine. Dean Hole and Roxborough were also good.

Mr. Elisha J. Hicks, Twyford, again showed a fine bank of Roses, Climbing Hillingdon, Princess Mary, Climbing Orleans, Maman Turbat (a pink cluster), Ellen Poulsen and Mrs. Dunlop Best being among the more important.

Messrs. Frank Cant and Co., Colchester, contributed a capital group of cluster and other Roses, the former largely as standards. White Dorothy, Orleans Rose, Dorothy Dennison and Minnehaha were well represented. Mrs. Foley Hobbs, Richmond and Lady Alice Stanley were others of note.

Messrs. William Cutbush and Sons, Highgate, N., contributed forced shrubs, Hydrangeas and alpines, the choicer things in the latter being Erinacea pungens, Schizocodon soldanelloides and Incarvillea grandiflora.

Mr. Clarence Elliott, Stevenage, showed Linaria Cymbalaria rosea, Androsace Chumbyi, Gentians, Anthemis Aizoon and Campanula Allionii in groups. Daphne Cneorum alba was also noted.

Carnations from Messrs. Stuart Low and Co. Enfield, were very good, Red Ensign being a feature. Mephisto (a fancy Perpetual Malmaison) and Salmon Enchantress were others of note. Greenhouse plants included Ericas, Streptocarpi, Epacris, Eriostemons, and Leptospermum Nicholsii with a profusion of ruby crimson flowers.

Messrs. Piper, Bayswater, contributed an excellent group of shrubs, the dominant feature being some fine examples of Wistaria sinensis alba. Clematis Guiding Star, Cytisus Dallimorei, Rosa Hugonis, Genista Andreana prostrata and Lonicera sempervirens were noted. Messrs. Piper also showed alpines, Achillea argentea, Phlox Douglasii, Lewisia Cotyledon, Primula La Lorraine and Phlox divaricata Violet Queen being among the number.

Bakers, Wolverhampton, sent a nice lot of Saxifraga Codsall Gem (crimson), Gentiana acaulis alba, Androsace villosa, Daphne Cneorum, Saxifraga S. T. Wright (cream) and Haberlea virginalis.

Messrs. B. R. Cant and Sons, Colchester, showed very good Roses, Snow Queen, Lady Roberts, Goldfinch, Blush Rambler, Silver Moon and Anna Olivier being some of the more prominent.

Flowering shrubs were a feature as shown by Messrs. J. Cheal and Sons, Crawley, the more beautiful being Pyrus Malus spectabilis Riversii, P. M. Scheideckeri, Exochorda alba, Magnolia Soulangeana nigra, Spiræa arguta multiflora, Pyrus Malus atrosanguinea and Prunus serrulata J. H. Veitch. In another group alpines and Dahlias were shown.

Roses from Messrs. William Paul and Sons, Waltham Cross, included Paul's Scarlet Climber, Souv. de Gustave Prat (cream) Yellow Banksian, Portia and others.

Mr. G. Kerswill, St. Thomas, Exeter, contributed a lovely lot of Gentiana acaulis, the flowers of remarkable brilliancy and good colour.

The Yokohama Nursery Company, Limited, Craven House, Kingsway, showed dwarfed trees, in which were seen Acers, Thuya, Wistaria multijuga and other plants.

The Misses Hopkins, Shepperton-on-Thames, showed good masses of Aubrietias with other hardy plants.

Mr. G. Reuthe, Keston, showed many good hardy plants, Oxalis enneaphylla grandiflora, Myosotis rupicola, Haberlea Ferdinandi-Coburgii, Anemone alpina, A. sulphurea, A. rupicola and A. globosa being prominent. Lithospermum oleoides, with bluish flowers, was very beautiful.

Messrs. R. H. Bath, Limited, Wisbech, had an excellent bank of Tulips, The Fawn, Clara Butt, Erguste, Mrs. Moon and others being noted.

Messrs. Carter and Co., Raynes Park, had a lovely lot of Streptocarpi in pink, white, blue, violet, rose, purple and other shades.

ORCHID COMMITTEE.

Present: Sir Jeremiah Colman (chairman), Sir Harry J. Veitch, and Messrs. J. O'Brien, A. Dye, R. G. Thwaites, Gurney Wilson, R. A. Rolfe, F. J. Hanbury, Pantia Ralli, E. R. Ashton, T. Armstrong, Stuart Low, J. Cypher, H. G. Alexander, J. E. Shiel, A. McBean, J. Charlesworth, Walter Cobb, C. J. Lucas, R. Brooman White, W. Bolton, and S. W. Flory.

Messrs. Sander and Sons, St. Albans, showed Cattleya Undine (white), Brasso-Cattleya Digbyano-Mossiæ and Brasso-Lælio-Cattleya Astarte among many.

From Mr. J. Cypher, Cheltenham, were seen Brasso-Cattleya Maronæ, Lælio-Cattleya Fascinator, Miltonia Bleuana Stevensii, Masdevallia Harryana and Epidendrum Xanthinum × Boundii, of a rich orange shade. The plant shown had been flowering for eight months.

Messrs. J. and A. McBean, Cooksbridge, staged a delightful lot of Odontiodas and Odontoglossums. In addition, Cattleya Dusseldorfii (pure white), C. Mabel (also white) and Miltonia vexillaria were among notable things.

From Messrs. Armstrong and Brown, Tunbridge Wells, came a delightful lot of things—Miltonia Hyeana, M. Phalænopsis, Odontoglossum General Haig (which gained an award of merit), Miltonia vexillaria G. D. Owen (a lovely plant bearing twelve flowers on two spikes) and Cœlogyne pandurata (green and black, with thirteen flowers on a spike). Brasso-Cattleya Digbyano-Mossiæ splendens was very rich in colour.

Sir Jeremiah Colman, Bart., Gatton Park, contributed a lovely lot of Odontiodas, O. Ada (very dark), O. Bradshawiæ (very rich in colour) and O. St. Quentin (yellow, with red markings) being very beautiful.

An extensive bank of Orchids from Messrs. Charlesworth and Co., Hayward's Heath, included a fine lot of Cattleyas, Miltonia vexiliaria Lyoth, together with a feast of Odontiodas and Odontoglossums.

FRUIT AND VEGETABLE COMMITTEE.

Present: J. Cheal, Esq. (chairman), the Rev. W. Wilks, and Messrs. Owen Thomas, J. Harrison, W. H. Divers, J. E. Weston, A. Bullock, F. Jordan, Edwin Beckett, J. C. Allgrove, A. W. Metcalfe and George P. Berry.

A rather extensive collection of vegetables from the Hon. Mrs. R. Greville, Polesdon Lacey, Dorking (gardener, Mr. H. Prince) included Potatoes, Tomato Earliest of All, Carrots, French Beans Invincible, Asparagus, Peas, Lettuce, salads and much besides. A silver Banksian medal was awarded.

From Messrs. Sutton and Sons, Reading, came an important exhibit of Potatoes, baskets of seven first-early varieties being staged in admirable condition. These were Dunnottar Castle (oval), Gladiator, Ringleader, May Queen, Carisbrooke Castle, Harbinger and Sutton's Ashleaf. They were grown in a cold house from a planting made on February 5, their excellent condition a demonstration of what is possible in times of stress. A silver Knightian medal was awarded.

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Author of "Poultry-Keeping on Money-Making Lines," "The Intensive System of Poultry-Keeping," "How to Feed Hens for Egg-Production," &c.

IN my notes of May 12 I dealt with two methods of crop rotation, and pointed out that the seeds could be planted either within the wired-in enclosures (or runs) or in outside ground. The usual plan is to plough the ground in the spring and autumn instead of at each planting. The soil is prepared by a cultivator as a rule, and after the seeds have been sown broadcast they are covered by means of a smoothing harrow.

Two Excellent Crops.—Two excellent crops to grow are alfalfa and clover. The former is used for fowls very extensively in the States, where every poultry-farmer makes a practice of putting down so much of his land every season to the growing of the same. Here we know alfalfa as lucerne, but for poultry-feeding clover is undoubtedly more popularly used. Both, however, boast of about the same ratio, roughly, one of albumen to three of carbohydrates. The analyses read as follows:

	Albumen.	*Fat.*	*Carbo-hydrates.*
Clover, green ..	3·5 ..	0·7 ..	8·1
,, hay ..	14·5 ..	2·2 ..	34·6
Lucerne, green ..	4·5 ..	0·8 ..	9·2
,, hay ..	16·0 ..	2·3 ..	31·8

Samples vary, of course, as users of clover-meal will agree, and when buying this kind of food one should be guided by the guaranteed analysis.

Methods of Feeding.—Both lucerne and clover can be fed to fowls in two forms: 1, green; and 2, dry. In the former case the birds can be allowed to eat off the succulent greenery as it grows within their run, *i.e.*, after it has obtained a firm growth, or the desired quantity can be cut and given fresh to the fowls. In the dry state the clover or lucerne is cut green and cured into hay. In this dry form, too, it can be fed in several ways. The hay can be cut into quarter-inch lengths or ground into a meal. The latter is the more popular over here, and is very convenient for handling in conjunction with the mash. Another form of clover contains nothing but the heads or flowers (minus the seeds); this is by no means as valuable as the short-cut chaff or the fine meal.

Selecting a Sample.—In finely ground meal it is difficult to detect any adulterant, although it is easier in the short-cut chaff or hay to tell the amount of adulterated material—mostly timothy—present. If timothy is in the sample it can be picked out, as it is a yellow or brown material. A good test is to pour boiling water over the hay or meal and be guided by the smell. Pure alfalfa is bright green in colour and has a very appetising smell. Clover—hay or meal—will also smell fresh and wholesome if it is a good sample, and both will bulk or swell nicely. The presence of Italian rye-grass in clover-meal is quite customary, but it is a good addition, having a nice feeding ratio. The chaff and meal to avoid are those which do not "bulk" when scalded, and which are fit only for scratching litter. When used in the wet mash the dried clover or lucerne should be properly scalded. The best method of preparation is to place the chaff or meal in a bucket, pour over boiling water, and cover the receptacle with a board to keep in the steam, allowing the whole to stand thus for several hours prior to its use in the soft food.

Lucerne.—This well earns the title of "king of forage plants." Several cuttings can be taken during the season, and it will average up to twenty tons of nourishing feeding-stuff per acre. As the roots penetrate the ground so deeply, it will resist great drought, finding its own water, so to speak, while one planting will last up to ten years. It is not well suited to grazing by horses or cattle, owing to its being trodden down and the crowns of the plant being plucked. Fowls, however, when allowed to roam over a thick patch of lucerne do not harm it in any way, which is a great advantage. There is no set rule of planting this crop. If 30lb. of seed are used to the acre, a splendid growth should result, and after the seeds have been sown broadcast the land should be rolled to ensure a firm base. When made into hay the lucerne should be cut just before it is in full flower, and when cut be protected from rain. The plants when gathered should not be left long enough to become brittle, or the leaves will drop off, and this most valuable part of the crop will be lost. Deep, dry, chalky, well-limed and well-drained soil will yield the best results.

Clover.—There are many species of clover, but they are not so lasting as lucerne. The red clover is extensively grown, and while it is used pure in the South of England, it is sown with Italian rye-grass in the North. The heaviest crop is obtained the first year, and 16lb. of seed can be used to the acre. The best results are secured on rich, deep, heavy, well-limed loams, and on suitable soils the crop will grow for three years. The ground should be rolled firm after planting, and most of the clover should be made into hay and fed in either short-cut or meal form. Both clover and lucerne can be sown in April, May and June.

Making Clover Hay.—The clover should be cut when in flower, but before any of the heads turn brown. Having turned it several times, it should be raked into small "cocks" and left for several days. The "cocks" can then be opened and the sun allowed to play on the hay. It is ready to carry if no moisture exudes from it when a sample is pressed tightly in the hands or wound round two fingers. It should not be carted with dew or rain on it, and it must be stored under cover. One good plan is to place a layer of straw at the bottom and top and have alternate layers of the clover hay and straw between. Another plan is to cut it up into small lengths after the hay has dried and store it under cover in bags. Both clover and lucerne meals should be stored in a perfectly dry place, as dampness renders them unfit for poultry-feeding.

Preserving Green Clover.—Many poultry-keepers preserve a supply of green clover or alfalfa for use in the winter. Success has followed the use of air-tight barrels as the silos. The flooring of the barrel should be covered with straw or bracken, and the succulent green clover be placed therein and pressed down tightly. On top of the clover or alfalfa a thick sack should be laid, then about 7 inches (depth) of straw, and over this another sack. On top of the latter to complete the silo heavy bricks are placed. The clover should be cut into very fine lengths and placed immediately in the air-tight silo.

Woods for Growing Stock.

IN an earlier issue of THE GARDEN I dealt with the rearing of growing stock in woods and gave recommendations *re* feeding. If a full *evening* supply of grain was provided, the young stock might get artful and wait about in the afternoon listening for the sound of footsteps and the ring of the food-bucket. They would be better employed searching for natural food. The houses should be placed in the open if possible, as any site directly under trees would be more or less damp. In districts overrun by Reynard one could not, of course, adopt this system of free range, but I am writing in general. In all cases I would recommend the use of raised wooden floors to houses, while the structures should be securely fastened up each night to keep out ground vermin—stoats especially.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*

GREAT BARGAINS IN SUPERB FLOWERED ROSES

Specially retarded for late planting. Flower splendid this Season and during the Autumn.

TEA, AND HYBRID TEA EVER-BLOOMING ROSES.

Magnificent varieties for garden; nearly all Gold Medal winners; flower continuously the whole season. The Roses are of great substance, with remarkably long, handsome buds and shell-petalled flowers of most exquisite soft shades and distinct tea-like fragrance. 3 for **2/6**; 6 for **4/-**; 12 for **7/6**; 25 for **12/6**; 50 for **22/6**. 100 **40/-**.

All beautiful dwarf retarded trees for bedding out in masses now, far superior to ordinary bedding plants, and cheaper.

GIANT-FLOWERING HYBRID PERPETUAL ROSES

A Mass of Blossom all the Season.

VERY SPECIAL OFFER of Giant-flowering Hybrid Perpetual Roses. My selection, drawn from very best varieties where I have a surplus. Will transplant splendidly now, every tree having a mass of fibrous roots, and every one flowered all last season. A magnificent range of colour, from pure white to rich crimson. These will make any garden a blaze of colour. 6, all different for **3/-**; 12 for **5/6**; 25 for **10/-**; 50 for **18/6**; Packed free and carriage paid. This is a bargain price so long as stock lasts, as many of these Roses are worth from 1s. to 2s. each.

GREAT BARGAINS IN LOVELY CLIMBING ROSES.

A wonderful offer; half price. Having a grand stock of Climbing and Rambling Roses, all grand trees, in splendid condition; no need for bare walls, ugly places, arches and trellises not covered, etc. Plant these freely, they will flower in the wildest profusion anywhere and everywhere. 6 for **3/-**; 12 for **5/-**. No more at the bargain price when these are cleared.

NEW LARGE-FLOWERING HYBRID SWEETBRIAR

Delicious Fragrant Foliage and Lovely Flowers.

Everybody likes these new Sweet Briars. They grow anywhere, and perfume the whole garden. Very strong trees, 3, **2/6**; 6, for **4/-**; 12 for **7/-**.

NEW MAMMOTH SWEET WILLIAMS "HOLBORN GLORY."—The finest strain ever seen. The size of the blossoms, delicate and lovely colouring, splendour and brilliancy, is unsurpassed; no garden complete without this lovely strain. 12, **1/9**; 24, **3/-**.

NEW PERENNIAL PHLOXES.—Those who remember the thin-petalled white and the dull-hued purple Perennial Phlox of old-fashioned gardens, can scarcely recognise these new Phloxes as the same flowers. These new varieties are in bloom from June until frost, and the individual florets are twice the size of the old-time Phlox, and the shades of colour the brightest, richest, and clearest. There are no finer or more useful perennials than the Perennial Phloxes, or which will give more complete satisfaction. All are sweet-scented, dwarf in habit, compact in truss, and have large—many of them abnormally large—flowers, some exceeding in size a five-shilling piece. 6 for **2/-**; 12 for **3/6**.

PHYSALIS FRANCHETI.—New Giant Winter Cherry (Chinese Lantern Plants). Beautiful new Physalis from Japan, which has lately become in good demand for decoration and for bedding; entirely hardy. Grand for winter decoration, as this plant carries a perfect load of richly coloured lanterns. 6 for **1/3**; 12 for **2/3**.

THE CRIMSON SPIRÆA.—A glorious new plant. It is most superb for winter and spring decoration of the greenhouse, a well-grown plant being a mass of lovely crimson blossom; but it has a further charm by being perfectly hardy, and can be planted in the open at once. 3 for **1/6**; 6 for **2/9**; 12 for **5/-**.

FORGET-ME-NOT (The Jewel).—The colour is a remarkable sky-blue, which shines out in a most conspicuous manner when side by side with other Forget-me-nots, and constitutes the distinct feature of this plant. **1/6** per doz.

ARTEMISIA LACTIFLORA GRANDIFLORA ALBA.—A New and Remarkable Floral Gem of Great Beauty. This remarkably hardy perennial is, without doubt, one of the best new introductions, and may be classed with the showiest of all herbaceous plants. It is very free flowering on the poorest soil, and as the buds unfold they become whiter and whiter, until at last they burst forth into a veritable snowbank of drooping, fleecy bloom of purest white, the panicles often 2ft. to 3ft. long. It is a vigorous perennial, attaining a height of from 3ft. to 4ft. when well established, and is absolutely hardy, is of easy cultivation, and makes a wonderful show, equalled by few plants of any description. When known it will be planted by thousands. Superb for church decoration. 3 for **1/9**; 6 for **3/-**; 12 for **5/6**.

THE HARDY BLUE GERANIUMS.—This lovely hardy Geranium is rarely seen in beds or borders, yet it is absolutely a hardy perennial, and will give a wealth of glorious large blue flowers for months; increase and improve yearly. 3 for **1/6**; 6 for **2/-**; 12 for **3/6**.

HYBRID DELPHINIUMS.—Can offer plants from my superb collection. Single and Double Exhibition varieties; towering spikes of the most exquisite blue shades imaginable. All who see these new hybrids are amazed at the richness and intensity of colour. Without seeing them no one can form the slightest conception of their splendour. Perfectly hardy, and thrive anywhere. 6 for **1/6**; 12 for **2/9**. Extra large, 6 for **2/-**; 12 for **3/6**.

CHRYSANTHEMUM MAXIMUM PEERLESS.—The new giant white hardy marguerite; large, handsome, glossy foliage; the blossoms are enormous, and often measure 5in. across, thus eclipsing all other marguerites. 6 for **1/6**; 12 for **2/6**.

CANDIDUM.—This lovely Lily produces from six to thirty lovely waxy-white blossoms, which have the most delicious fragrance. Of all Lilies it is one of the most charming, and sure to bloom freely. 6 for **1/6**; 12 for **2/6**; larger, **4/-** per doz.

MICHAELMAS ASTERS.—"Mauve Queen," the most superb of all Asters. The flowers are large, and the now fashionable mauve tint so much sought after; the foliage is dark and luxuriant; habit very compact, and so free flowering as to almost hide the foliage. A charming flower for cutting and will flourish in any soil and situation, sun or shade. Having a grand stock, I offer at a bargain price. 6 for **1/6**; 12 for **2/9**. Mixed colours same price.

JAPANESE TREE PÆONIES.—The Glory of Japan. Will produce 200 blossoms on one tree. Huge blossoms of magnificent lustre and texture, often 10in. to 12in. across; glorious for greenhouse, but quite hardy for outdoors. Should be planted at once, as they flower early in spring. There is a refinement more rare and a charm more fascinating about the Tree Pæonies than can be described on paper. **3/-** each; 3 for **7/6**.

SUPERB PANSIES AND VIOLAS.

PRIORY BEAUTY.—This is a really magnificent Pansy, of great size and substance, free flowering and strong grower, colour dark rich blue, shaded plum, magnificent lustre and texture, now first offered by me. 6 for **2/-**; 12 for **3/6**.

VIOLA MAUVE QUEEN.—This is a delightful shade of colour; soft, refined, and extremely beautiful; plants simply a mass of blossom all the season. 12 for **2/6**; 25 for **4/6**; 50 for **8/-**; 100 for **15/-**.

VIOLAS in charming and delightful shades of colour; mixed. 12 for **1/6**; 25 for **2/9**; 50, **5/-**; 100, **9/-**.

VIOLA DAINTY DAME.—The dainty Viola, with a dainty perfume; a soft, refined, real ladies' colour. Now offered by me for the first time. Beautiful creamy white centre, with lovely mauve border, and perfect formation; may be justly called the Queen of all Violas. Continuous bloomer from spring to late autumn. 6 for **1/6**; 12 for **2/9** 25 for **5/-**; 100 for **17/6**.

CAMPANULA PERSICIFOLIA GRANDIFLORA ALBA.—The most valuable of the later introductions to our hardy flowers, a great advance on existing kinds, and one of the very finest hardy perennials in existence. The flowers are very large, produced on long, slender stems. Everyone should possess this magnificent Bellflower. Strong plants. 6 for **2/3**; 12 for **4/-**.

BEAUTIFUL IRIS.—Another grand old flower, as handsome as an orchid, now to be found in many new colours. A striking flower of crepe-like texture and most exquisite colouring, the gauzy veining reminding one of the delicate tracing of the butterfly's wing. Many colours, mixed, **2/-** per doz.; or the lovely white variety, "Florentine," powerfully violet scented, a lovely flower, 6 for **1/6**; 12 for **2/9**.

CORNFLOWER.—Emperor William, rich blue, splendid healthy plants, gems for cutting. 6 for **1/3**; 12 for **2/3**.

CANTERBURY BELLS.—Dean's lovely hybrids, ten superb colours of double and single varieties; fine year-old plants that will make a magnificent display. 6 for **1/3**; 12 for **2/3**.

LOVELY HARDY CLIMBERS.

DOUBLE MORNING GLORY (Calystegia).—Rare hardy perennial climber, one of the most beautful climbing plants, covered all through the summer with a mass of full, double, pale rose flowers in the shape of double Clematis flowers; often 3in. across. Remarkably fast and easy growing; excellent for trellis work, for covering walls, verandahs, balconies, etc.; grows on every soil. Sometimes called Rose Vine and Californian Rose, it will luxuriate anywhere, sun or shade, and when well established, its long vines, wreathed in a profusion of large double rose-like blossoms, produce a very telling effect. 3 for **1/6**; 6 for **2/9**; 12 for **5/-**.

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CLEMATIS VITALBA.—Those who want a climber to cover anything and everything, perfectly hardy, and rampant grower, should plant some of my Clematis Vitalba; flourish in the town garden or sunless backyard, in fact, grow anywhere. 6 for **1/6**; 12 for **3/-**.

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IZAL FLUID, 3/6 ½-gal., 6/6 per gal. **IZAL POWDER,** 2/6 per 14lb. bag, 6/6 per 50lb. keg.
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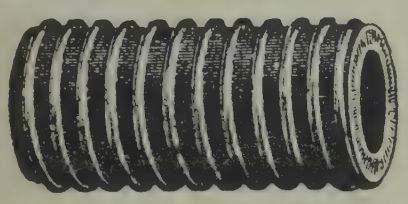

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Strength.	Cut Lengths.	60 feet Lengths	Strength.	Cut Lengths.	60 feet Lengths
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Keelings Spraying Mixture
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In 4lb. bags (sufficient for ¼ acre) price **4/6**; 8lbs. **8/-**; 16lbs. **13/6**; 32lbs. **24/-**; all carriage free in U.K. Special prices for larger quantities. Send P.O. with order direct to the Manufacturers,

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THE GARDEN

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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WAKELEY'S PATENTED HOP MANURE. The only reliable and complete substitute for Stable Manure. —See advertisement page ii.

VEGETABLE PLANTS.—Barr's Selected Strains, now ready to plant out: Summer Cabbage, Small Red Cabbage, Brussels Sprouts, Cauliflowers (early and late), Kale (Asparagus and Scotch), sturdy plants 3/6 per 100, carriage paid.

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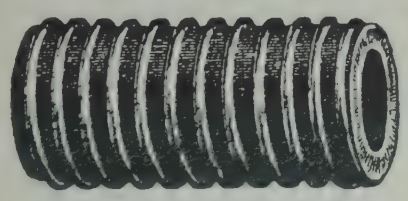

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Godbolds.

THE GARDEN.

No. 2377.—Vol. LXXXI.] [June 9, 1917.

NOTES OF THE WEEK

WE are pleased to learn that the Food Production Department, 72, Victoria Street, Westminster, S.W., are making arrangements for lectures and practical demonstrations in fruit and vegetable bottling throughout the country. Such lectures at the present time will prove of the greatest value in the homes of all who grow fruit. Retail prices for fruit are almost certain to rule high, as so much of the market produce is being bought at high prices for the purpose of making jam for the troops, and this is all the more reason why the preservation of fruit should be encouraged in the home. The Walton-on-Thames Urban District Council, which is ever alive to the necessity of food production and preservation, has started at Hersham, Oatlands Park and Walton a series of lectures by Mrs. W. A. Bilney on fruit and vegetable bottling, at which housewives and other residents interested are earnestly invited to attend. If this example is followed by every district council in the United Kingdom, it will do much to alleviate the possible food shortage next winter.

Lieutenant - Colonel Mark Lockwood, C.V.O., M.P.—Congratulations to Colonel Lockwood, who is among the new peers. Apart from his duties as Chairman of the Kitchen Committee of the House of Commons, Colonel Lockwood is a very keen gardener and a member of the Council of the Royal Horticultural Society. His new title is Lord Lambourne.

Rhubarb The Sutton.—While this is one of the most attractive-looking of this esteemed vegetable, it is, in our opinion, unsurpassed for general utility. The brilliant colouring of the stems, which are so fine a commercial asset and cause it to sell at sight, is but one of its many good attributes. Cooked, it is pleasantly acid, requiring far less sugar to be added than most sorts, while a general refinement is apparently responsible for a comparative absence of fibre; hence its high table quality. For bottling, too, it is excellent.

Increasing Thyme.—Both the Lemon and common or Black Thymes have suffered considerably in some localities owing to the trying and prolonged winter weather, and, where not already done, steps should be taken at once to supply any deficiencies that may occur. By this time, where the old plants have been much cut by frost, there should be evidence of growth where any life remains, and the bushes may be pruned back to this point. Pricking the soil round about them and giving a top-dressing of old potting material or rich, light soil will be found helpful to assist new growth. Inch-long bits of new growth inserted as cuttings root readily in moist sand in a cold frame now, and the resulting plants may be bedded out as soon as ready. Seeds may also be sown now of both, though the seedlings of the Lemon Thyme are inclined to vary. Both kinds prefer medium to light loams.

Black Fly on Cherry Trees.—When trees on walls become infested with black aphis the growth is stopped, and if prompt measures are not taken the growth of the tree is crippled for that year and the fruit crop spoilt. A daily look-out should be kept on trees at this season of the year for the first sign of the point leaves curling. When this is found, unroll the leaves, and it is almost certain that black fly will be found there. One small tree can be cleansed with clear water only. In the left hand hold a basin of water, and with the right hand bend the shoots, dipping the point in the water at the same time with the finger and thumb. Clear the leaves from fly in the water. If the tree is large, syringe vigorously with paraffin emulsion in the evening; next day give the tree a vigorous syringing with clean water. In stubborn cases dip the point of the shoots in tobacco water.

AZALEAS IN A GARDEN AT WEYBRIDGE.

Unreliable Advice.—When the ordinary newspaper deals with horticultural matters, some strange advice is often given. The following is taken from one of the prominent Sunday papers, under the heading of "Home Hints": "To destroy green fly.—Put a tablespoonful of paraffin in a pail of water and pour it over the Rose bushes very gently. This will completely destroy the green fly. A few drops of castor oil will be found most beneficial to drooping Ferns. Drop the castor oil on the roots and soak the Ferns in a pail of water all night. In a week a marked improvement will be noticeable." With regard to the destroying of green fly, the writer seems to have ignored the fact that plain water and paraffin will not mix. The oil will float on the top and run over at the first pouring. Again, the reader is left in a state of uncertainty whether the mixture is to be poured on the roots or not. A strange feature of the castor oil cure for Ferns is that it is apparently effective whether the Ferns droop from drought or the roots are decayed by too much water, the result of standing them in vases or saucers and allowing the water to remain therein. In the case of Ferns whose roots are dry, it is easy to understand that the soaking in a pail of water—not the castor oil—will do them good; but for Ferns with decayed roots the advice is certainly all wrong.

Sunflowers.—The reference to the large-flowered Sunflower reminds one of a little episode recently recorded in a London daily. A seedsman was asked if he had any giant Sunflower seed, but, being out of stock, the seedsman advocated the small-flowered forms, which were much more useful for the garden. The would-be buyer, however, stated they would be of no use, as he wanted the big ones specially for the purpose of annoying his neighbour. Query: Had the neighbour planned a colour scheme, and was he particularly averse to the garish Sunflower peeping over his wall, thus destroying the harmony of colour?

A Remedy for Slugs.—Slugs are numerous this spring, the severe weather appearing to have done little injury to them. For some reason or another soot is generally advocated for warding off their attacks. Sometimes in the past I may have erred in the same way, but I am now convinced that it is of little use, except as a stimulant to plant life, and I am not certain that it does not act in the same way on a slug. A plentiful supply of finely sifted cinder ashes I have long since found to be by far the best remedy. [Sharp sand and road grit are also effective.—Ed.] If placed round the young growths the pests very much dislike crawling over this, as it adheres to their skin, which they much detest.—E. Feckett.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Broad Bean Tops.—Oh, fie! for shame, Mr. Editor, for advising your readers to burn Broad Bean tops, and in these war times, too. Have you never eaten them boiled? If not, try them, and you will find them a very palatable dish. [We are grateful for the suggestion and will certainly give it a trial.—ED.] Use the tops just after the third tier of flowers is out. If pinched out then and boiled while fresh, a good vegetable is obtained, and at a time when greenstuff is not too plentiful, and no opportunity is then afforded black fly to disfigure the Bean tops. Furthermore, better Beans are secured by pinching the tops out at this stage. So far I have never met anyone who has tried Broad Bean tops, but there! how seldom English people consume boiled Lettuce. They would sooner throw bolted Lettuces on a rubbish-heap than take the trouble to boil them. Verily, we are a wasteful nation!—ECONOMY, *Weybridge.*

Scentless Musk.—Perhaps you are tired of hearing why Musk has lost its scent; but someone referred to this country, where it grows wild, and seemed to think that the change from the conditions here had something to do with its loss of fragrance. Musk grows plentifully around Victoria, British Columbia. I collected it twenty-eight years ago there, and was quite disappointed to find that if it had any smell at all it was rather a disagreeable one. Douglas must have collected this plant away in the interior, as I notice in the "Southern British Columbia Flora," by J. K. Henry (1915), that he says: "The musky odour is apparently not characteristic of plants at the coast." Evidently there is quite a variation in the species, as Dr. Asa Gray, in the "Botany of California" (1876), says: "The Californian specimens of the Musk plant of the gardens incline to have a longer corolla, fully thrice the length of the calyx and twice the size of the plant in common cultivation."—G F., *British Columbia, Canada.*

The Earliest Roses.—Towards the end of May we look for the first Rose to come into bloom. This year the race has been between Rosa altaica and R. Hugonis, the latter being the winner. Both are natives of Central Asia and both belong to the spinosissima group. R. altaica is almost a counterpart of our native Burnet Rose, but is a size larger all over; it has the same bloom, lemon white on first opening, changing to pure white. The colour of R. Hugonis is a clear lemon yellow of beautiful quality, and the bloom is abundant.—G. J.

A Weybridge Garden.—We can no more afford to lose our collections of rare flowers than we can give up our treasures in art and literature. Most flower gardens, however, are sadly neglected, and many rare plants have, I fear, been lost to cultivation for want of attention. Happily, there are private gardens here and there throughout the country in which the owners by unselfish devotion and their own exertions have saved collections of beautiful plants. To the latter class belongs the garden of Mr. W. A. Bilney at Ronneby, Oatlands Chase, Weybridge, and, singularly enough, on the occasion of a recent visit this garden was looking better than ever before. Masses of bright Rhododendrons, brilliant Tulips, and bold groups of Irises create scenes of unusual splendour; while the moraine is full of treasures from the mountains that bring pleasant memories of June in the Alps in years gone by.—WAYLAND.

TULIP-TIME IN A GARDEN AT WEYBRIDGE.

IN THE IRIS GARDEN.

Notes on Rhubarb Leaves as a Spinach Oseille, Laurel and Bay.—The first time I heard of Rhubarb leaves as a Spinach was over twenty years ago, when at a family dinner-party the young tops of forced Rhubarb (grown on chalk soil in Surrey) were served and eaten without any ill effect. I have also eaten them myself mixed with Spinach Beet to eke out a short supply, but consider they did not improve the flavour of the dish; rather the reverse. Much probably depends on the variety of the Rhubarb (some kinds being so much less acid than others), also possibly the material of the saucepan in which they are cooked. Large-leaved French Sorrel (Oseille) I have constantly used for many years in many ways—raw in mixed salads, purée in soups, and as a thick sauce with veal and pork, and have never found any ill effects. I consider it a most valuable plant in cookery. Young leaves of common Laurel are used in strict moderation for custards and milk puddings by me; while Sweet Bay leaves are reserved for flavouring fish, such as pickled mackerel, &c., and also as a flavouring for stew and for spiced meats.—ANNE AMATEUR.

Myosotis oblongata.—This Forget-me-not is especially suitable for growing in the wild garden. It has the great advantage over other species in flowering continuously from May until September. The flowers are pale blue and the foliage a light green. I grow it in masses among small bushes of Berberis stenophylla, and the contrast is very striking.—L. B.-W., *Birdwood, Wells, Somerset.*

Harvesting Haricot Beans.—We are receiving numerous enquiries from amateurs just now in respect to the harvesting of Haricot Beans and Peas for use next winter, and we think a few notes on the subject may be of some service to your readers. All the white-seeded varieties of both Dwarf and Runner Beans are suitable for winter use as Haricots, as also are Excelsior (a golden brown seeded Dwarf Bean) and the Dwarf Green Haricot. To harvest the Beans.—In the case of the Dwarf varieties, all the pods should

be allowed to remain on the plants and ripen naturally in the sun. About the end of September the whole plant should be pulled up and the haulms hung in a dry, airy shed or spare room. In the case of Runner Beans, a first picking, green, is sometimes taken off by growers, but it is perhaps generally safer to let the whole crop ripen; the plants may well be pinched back after a good crop has set. As the haulms of Runner Beans are large for hanging up, the individual pods may be gathered in autumn and put in an airy place to complete their drying. Peas.—The best variety to sow now is Little Marvel; it not only cooks well when dry during the winter, but has the further advantage of maturing early, and, being a dwarf-growing variety, it does not need staking and is more easily handled. The treatment in harvesting is the same as for Haricot Beans, a full crop being allowed to develop on the plants and ripen entirely outdoors if the weather is favourable, or the whole plant may be pulled up in autumn and hung in a dry, airy shed or spare room. It is a most important point for amateurs to bear in mind that the Beans or Peas must be thoroughly dry and the seeds quite hard before they are stored for the winter. Last autumn, owing to the continued wet weather, it was necessary for many seed growers to finish the drying of both Beans and Peas in trays before they could be safely bagged. Like most other things, however, it is only ordinary care that is required to ensure success, and in view of the prospective shortage of food for next year it is "up to" all to do what is possible to produce a reserve of food by their own endeavours.—BARR AND SONS.

Lepidium Smithii as a Vegetable.—Since I wrote the note on this subject on page 184, May 26, I have explored this neighbourhood in a wider area, ranging from Ramsgate to Margate, and I have been surprised at the extent to which this Cress has taken possession of the soil, both cultivated and uncultivated. It is now in full flower and past its best stage for the table, and Sprouting Broccoli, Turnip and other greens of familiar flavour are comparatively abundant, but I would again press the claims of the Cress for trial early next season. Certainly it would successfully compete with Rhubarb leaves and Dock leaves, which are rejected alike by animals and insects. No account of the cultivation of Rhubarb to which I have access at the moment mentions insect enemies, and the standing Docks in bare-grazed pastures tell their own tale. [Goats are said to be fond of Docks.—ED.] Neither pigs nor asses will eat Rhubarb leaves, I believe, and I doubt whether the omnivorous goat would touch them except to put an end to its existence in the absence of other food. Apart from supplying a wholesome "green," the utilisation of Smith's Cress as an article of food would benefit the farmer and render the hedgerows and boundary ridges more attractive by permitting the growth of more ornamental plants.—W. BOTTING HEMSLEY, V.M.H.

Brussels Sprouts Planting: A Warning.—Mr. G. Garner, page 175, cites an instance of the evil wrought through delay in the timely planting of this much-esteemed green vegetable, which, if regarded in its full significance, should serve as a general warning to others. To have hoped to have taken both Peas and Brussels Sprouts from the same quarter was expecting too much, and could only end in the partial or complete failure of one of them unless provision had been made for putting out the Brussels Sprouts between the rows of Peas in due time. Mr. Garner says their "stems hardened unduly" and the plants failed to respond to "two applications of nitrate of soda," which is what one would have expected. To healthy, developing plants these applications might have proved a serviceable tonic, but to plants in the hide-bound condition named it was useless. A like condition of stem growth at planting-time is not infrequent—a direct result of a too early seed sowing or inability to gauge the time when the land would be ready for the green crop. Where an error of judgment occurs in timing, the better remedy is by a fresh sowing of seeds of the succession crop, since smaller plants would have given better results in the end. But Peas with Brussels Sprouts to follow appears foredoomed to failure for the latter, since the greatest essential of all—a long season of growth to the plants—is impossible. Without it, the stem growth necessary for a full crop of buttons cannot be secured. Very firm planting is also highly desirable for this crop, though frequently disregarded altogether.—E. H. JENKINS.

Vegetable Marrows.—Where these plants have been raised in heat, the end of May will see some of them planted in their outdoor quarters. Giving slight protection at night for a while will aid the plants to take to the fresh soil and ward off the evil effects of sudden climatic changes. A portable frame, hand-lights, old baskets or, failing these, some branches of evergreens, will answer the purpose. Some growers sow in May where the plants are to fruit, but a few early grown plants give an appreciated return where sufficient space is possible. These early grown specimens can be managed in pots, frames, inside borders, or on stages like Cucumbers, and can be allowed to trail or be trained upright to wire fixings. In limited spaces the growths must be thinned rather more than is otherwise necessary, and the first few flowers be hand pollinated because of the scarcity of bees and other insects. Outdoors, Marrows may be grown on the level or on mounds of earth and manure, the latter being obviously the better in wet or sunless summers. Like most vegetables, medium-sized fruits are the best flavoured, and do not overstrain the plants like huge specimens. Many growers advise sowing in pots, but where several varieties are attempted the seeds can be sown in a box, marking off each variety with a stick between as here shown. Two old favourites are Long Green and Long White, while Pen-y-byd and Moore's Cream are two of the best for general use. Green Bush or Cluster Marrow is useful for small gardens —C. T., *Ampthill*.

VEGETABLE MARROWS IN SEED-BOX AND POTTED UP.

FERTILISERS FOR FRUITS

WHILE it is an easy matter to give too much manure to fruit trees—and there is great danger in overmanuring—at the same time it is possible to help ripen and develop the fruit by judicious application of special fertilisers at this season of the year. For trees in gardens and small plantations one may well consider the sound recommendations of Mr. W. Dyke:

Apples and Pears.

Each May, when the fruit has set, he recommends 2oz. per square yard of a mixture consisting of muriate of potash, one part; sulphate of ammonia, one and a half parts; and superphosphate, three parts. A good plan on poor, hungry soils is to apply a barrow-load of well-decayed farmyard manure to each tree when the bloom is opening and before it falls.

Apricots, Cherries, Damsons and Plums.

Give, in June, ¼lb. to 3½lb. of fish-meal, according to size, to each tree promising a heavy yield of fruit.

Currants and Gooseberries.

In May apply 1oz. of nitrate of soda or of sulphate of ammonia to each tree.

Peaches and Nectarines.

Immediately before and after stoning apply 2oz. per square yard of a mixture consisting of Peruvian Guano, one part; dissolved bones, two parts; muriate of potash, half a part. If trees fruit too freely and do not make sufficient healthy growth, apply instead the same amount of: Nitrate of lime, one part; guano, two parts; dissolved bones, one part; and muriate of potash, one part. In case of trees making too much growth and not bearing freely, apply 2oz. per square yard of nitrate of lime, one part; and bone-ash, four parts.

Raspberries.

Three pounds of fish or Peruvian Guano per square yard when the plants are in flower.

Strawberries.

In April apply 2lb. of superphosphate per square rod, and directly the fruit has set, the same amount of nitrate of soda or sulphate of ammonia.

Of course, the general fertility of the soil is the chief factor deciding the amount to apply. Poor soils always need the full dressing, but it may be advantageously reduced as fertility increases, and omitted on rich land. Fruit trees more frequently lack moisture than plant food in summer. Moisture is conserved by mulching and constant hoeing. L. M. MARSHALL.

INSECTS THAT HELP THE GARDENER.—II

BY JOHN J. WARD, F.E.S.

JUST in the same way that aphides are attacked by insect enemies, so destructive caterpillars are destroyed by similar foes. In Figs. 11 and 12 two ichneumon flies are shown, active insects which are often seen running over the foliage of our garden plants with feelers quivering excitedly, always appearing in a great hurry.

Fig. 11.—An ichneumon fly searching for caterpillar victims on which to place its eggs. (Natural size.)

The mission of these wasp-like insects is to seek for living caterpillars among the branches and leaves, and to alight upon their bodies and thrust their sharp ovipositor into their substance and leave one or more eggs there. From each egg comes a maggot, which devours the internal tissues of the caterpillar, and so destroys it. Eventually it either becomes a chrysalis within the shrunken skin of the caterpillar, or in the skin of the chrysalis into which the caterpillar is sometimes able to change; or it may leave its dying host and pupate in the ground or elsewhere. There are an incalculable number of caterpillars destroyed every day in our gardens by these insects, of which there are numerous species, both large and small.

Sometimes around Gooseberry bushes and other trees a host of what look like house flies will be seen, all extremely active in and out among the foliage. These are tachina flies, and their work is, like that of the ichneumon flies, to destroy caterpillars. The larvæ of the Currant, or magpie, moth (Fig. 13), which cause so much damage to the foliage of Currant and Gooseberry bushes, are very subject to the attacks of these insects, which are very difficult to distinguish from a common house fly.

In Fig. 14 some of the caterpillars of the Currant moth are shown making their light silken cocoons in which they change into the chrysalis stage. In the upper two the caterpillars are seen so engaged, while in the lower one on the right the change has been effected, the chrysalis being formed with the shrunken caterpillar skin by its side. In the lower example, on the left, however, the caterpillar skin has been cast, but, instead of the chrysalis of a Currant moth, three chrysalids of the tachina fly have been produced. Instead, therefore, of a moth appearing, as shown in Fig. 13, three tachina flies would emerge from that cocoon. In Fig. 15 two chrysalids of these flies are shown with their inmates just emerged, with (below) the fully developed fly as it appears about an hour later.

Caterpillar enemies in the insect world alone, not considering birds and larger foes, are legion. Among the most interesting and astonishing are the solitary wasps, or mud-wasps, two novel and unique photographs of one of which are shown in Figs. 16 and 17.

This insect is very much like an ordinary wasp, but slightly smaller in size, and it builds its wonderful nest entirely unaided, there being no social life, as in the case of the common wasp. Its nest is built of mud made from sandstone, which it scrapes

Fig. 14.—Two caterpillars of the Currant moth are seen above constructing their light silken cocoons in which they change into a chrysalis. Below, on the right, one has completed the change, and the chrysalis and shrunken caterpillar are seen. On the left the cocoon contains three chrysalids of the tachina fly parasite.

into a powder by means of its jaws, and then mixes it with saliva into a kind of mortar; this it usually carries to a flat brick wall, and there, mouthful by mouthful, it builds rows of cells, three of which are shown completed in Fig. 18. In each cell is stored from eight to sixteen living caterpillars, all under an anæsthetic from having when captured been stung by the mother wasp in such a way as to paralyse but not to kill them. Finally, with each collection of caterpillars the wasp places an egg and then seals up the cell, and at once proceeds to build another. In that manner she provides her offspring with fresh meat when it emerges from the egg some twenty-four hours later. In the dark chamber of the mud-cell the wasp grub devours its caterpillar feast and then lies by, completing its changes into a mud-wasp by June of the following summer.

Fig. 15.—Two chrysalids of the tachina fly with flies just emerged. Below the fully-developed fly, which is very like a house fly.

These mud-cells when seen upon walls should never be removed. Sometimes they are arranged horizontally along the mortar between the bricks, and at other times perpendicularly, as shown in Fig. 18. Another species of similar habits builds irregular groups of cells, looking extremely like a dab of mortar hurled at the wall. The mud-cells remain on the walls from the end of June of one year until early in June the following year, the wasps then biting their way out and appearing for only about three weeks in June.

The example illustrated in Figs. 16 and 17 is very striking, from the fact that the wasp built its cells partly on the glass of a stone window of a country school. The photographs are taken from inside the room, the wasp being seen at work outside in the sunlight. The fat wasp grubs can be seen inside some of the cells, having disposed of their supply of living caterpillars. In Fig. 17, which was photographed a day later than Fig. 16, an additional cell is seen to have been made, and this is stored with caterpillars. These wasps are some of the most useful and interesting insects that visit our gardens. The group of cells shown are larger in number than appears on the glass side, as other cells are arranged outside those whose interior is shown. Probably one hundred caterpillars would be destroyed to supply this group of cells.

On the ground, too, insect friends are often abundant. In Fig. 19 a photograph is shown of a familiar ground beetle which is often destroyed by a heavy boot being placed upon it the moment it appears. It is of nocturnal habits, but sometimes gets disturbed during the daytime, and then appears of a metallic violet colour as it catches the sunlight. It should not be destroyed,

Fig. 16.—The solitary mud-wasp building its mud-cells, which are stored with living caterpillars to feed the wasp grub. The cells are built on the glass of a window, and the photograph is taken from inside the room, showing the wasp at work outside in the sunlight.

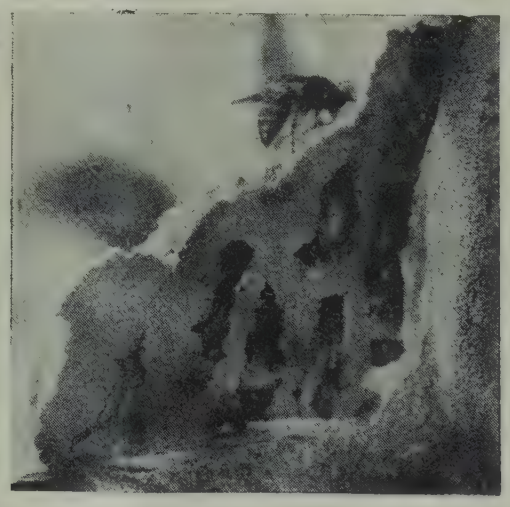

Fig. 17.—The mud-wasp shown in Fig. 16 photographed one day later. An additional cell is seen to have been made, and is stored with nine or ten little caterpillars.

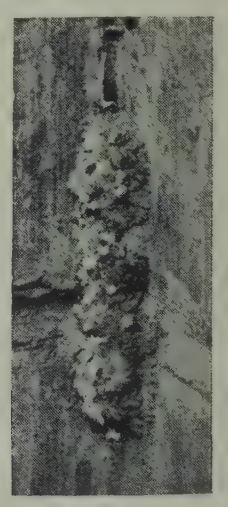

Fig. 18.—Mud-cells of the mud-wasp in the corner of wall. The wasps bite their way out in early June.

Fig. 12.—Another species of ichneumon fly caterpillar-stalking.

Fig. 13.—The Currant or Gooseberry moth just emerged from its chrysalis, the empty skin of which is seen on the leaf to the left.

as it is a very good scavenger on the surface of the soil, and it also destroys many insect grubs which do injury below the surface. There are several species of these beetles, all characterised by their metallic colouring and fiddle-shaped bodies.

There is another ground beetle, which cannot make any claim to beauty of colouring or form, illustrated in Fig. 20. This insect, "the devil's coach-horse" beetle, is even more useful than those already mentioned, being both bold and fearless, and attacking all kinds of prey, worms, slugs and various grubs, which do considerable damage in the soil. It is of a dull funereal black from head to tail, and it can assume very

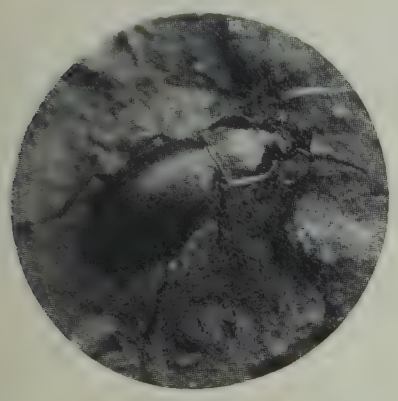

Fig. 19.—The fiddle or ground beetle. These beetles are beautifully coloured with metallic sheens and serve useful purposes among the soil, and should therefore be protected.

Fig. 20.—The cockiail, or devil's coach-horse beetle, which is a useful insect to the gardener and should not be killed. It assumes desperate looking postures when attacked.

desperate-looking postures when attacked. It will fight boldly, and hold on firmly should it get a grip. Its ugliness and pugnacity should be forgiven, however, on account of the useful work it does, largely at night.

Seeing that we have so many insect friends, it is perhaps wise when an insect cannot be proved to be doing any harm to give it the benefit of the doubt. Finally, it should be remembered that, although some newspapers are informing us that it is unpatriotic to grow flowers in war-time, a few unattended groups of mixed kinds may mean all the difference between successful and unsuccessful crops.

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NOTES FROM THE RIVIERA

By EDWARD H. WOODALL.

YEAR by year the conviction grows on me that the Japanese Wistaria multijuga is still more precious and desirable than the well-known lovely W. sinensis. It is true that there are many poor varieties of W. multijuga, but when the fact is realised that W. multijuga will thrive on clay and on dry and poor calcareous soils where W. chinensis is miserable, I think a good *prima facie* case has been established. The greatest superiority, however, is in the behaviour of the two white varieties, for the Japanese white W. multijuga is so much hardier and resistant than the Chinese form that I cannot understand anyone planting the white Chinese Wistaria that flowers so early and vanishes with the first touch of wind or rain. W. multijuga alba flowers quite three weeks later, which means it has a chance of better weather for its flowering season, and it is more inclined to leaf earlier than the Chinese form; though I strongly recommend putting a plant or so of the early leafing double Chinese with it, not so much for the sake of the bloom as for its abundant and early leafage, which adds so greatly to the beauty of these white flowers. The great length of the racemes of the white Japanese Wistaria is a striking charm on a pergola or verandah, and I am sure it should *not* be planted against a south wall, as is so commonly done in the case of W. chinensis. Under the shade and shelter of a pergola its long racemes last longer and develop more fully than when against a wall. I never knew or grew it when I gardened in Northern Yorkshire, but my impression now is that I should much prefer to plant it in Yorkshire than any of the Chinese forms.

The nationality of W. brachybotrys is not known to me, but its late flowering and its lovely red mauve colouring make it a very desirable thing where there is room for so robust a grower. In the South it has the peculiarity of flowering on the last year's long shoots, so that you may have a garland 6 feet or 8 feet long furnished with its large and lovely flower-spikes that do not exceed 5 inches or 6 inches in length, but make up for it by the length of the flowering sprays. In fact, every Wistaria is beautiful, and those who find that W. chinensis does not thrive with them should at once plant one or several of those I have described.

This year, stimulated by unusual heat during its flowering season, W. multijuga alba has set seed so abundantly that I shall be obliged to get ladders and try to cut off the excessive production of "Pea pods," for I cannot think they would be worth eating, and their profusion would certainly prevent a good flowering another year. Only this season I have striking proof in the absence of bloom on a Chimonanthus grandiflorus and the lovely Sophora secundiflora, which I had allowed to seed freely last year. It is true I have a nice lot of young seedlings this spring, but those two bushes have had hardly one flower on them after their production of so much seed. The set of all hardy fruits this spring is so remarkable that I fear we must not expect a like profusion another year, save in the case of early varieties which have time to recover their strain before another winter. It seems an irony of fate that the year when there is the greatest abundance of fruit set there should be no chance of preserving it in the usual manner, as sugar is so difficult to obtain just now.

Hemerocallis aurantiaca major is flowering quite freely this spring, as it did last year, so it has settled down happily to the conditions here. Somebody will, I hope, tell me if it is a spring or early summer bloomer in Japan; we shall then know better how to manage it in Northern gardens.

THE SNOWDROP TREE

(HALESIA TETRAPTERA.)

OUR example of this beautiful flowering tree seems to have attained unusual dimensions, for it is quite 40 feet high — probably higher — and this year is even more than usually loaded with its pure white bloom. It grows at the edge of a grove of Bamboo, which has possibly robbed it of its lower branches, for its strong, straight trunk, now of a girth of 31 inches at 3 feet from the ground, is hardly branched at all for the first 15 feet, but the shapely and now wide-spreading head is well furnished to the top. The flowers are on the outer branches, hanging in graceful clusters of four together on slender stalks that first arch slightly upwards. They come from the points that were the axils of the last year's leaves. This year they appear to be larger than usual—though I have no authentic drawing or measurement of normal size for comparison—but they are 1½ inches long as they hang in bell form, and 1¼ inches in diameter.

It is a North American tree, said to grow in damp places, though here in South-West Surrey it flourishes in very poor, sandy soil on a dry hill nearly 200 feet above any natural water. Nicholson describes it as a small tree 15 feet to 20 feet high, but it seems to be more frequent in gardens as a large bush than as a tree with a clear stem. G. JEKYLL.

FLOWERING BRANCH OF THE SILVER BELL OR SNOWDROP TREE (HALESIA TETRAPTERA.)

It is a glorious flower when fully developed, deserving the name of a golden Amaryllis, and worthy of any extra attention.

Streptosolen Jamesonii on a south wall is a dazzling mass of orange and scarlet flowers. Though it is so tender a plant, it has withstood the wet of last winter better than the Heliotropes, which are only beginning to lose their pinched and yellow aspect, unless in some very dry corner under the shelter of a protecting tree or overhanging bush. Another week or ten days of the summer heat we have been feeling will entirely remove all traces of winter stagnation and put an end to the Roses that have been so superb this season.

A USE FOR FOWL-MANURE

VALUABLE as it is as a guano for all manner of purposes, fowl-manure possesses the property of decomposing vegetable matter in a remarkably short space of time. Spread thinly between layers of turf, mixed with leaves, weeds, Bracken and other refuse of a like nature, it will transform it in a very few weeks into a condition suited for use with most vegetable crops. Now that manure is so scarce, many allotment holders and small gardeners might, with a little enterprise, soon gather together enough of such material as their plots require. I have for years adopted it as a substitute for animal manure, with considerable success. The fowl-manure must be used as fresh as possible. No lime should be put with it, and whenever the manure is sprinkled upon the heap it should be covered with a layer of vegetable matter and a little soil. When a sufficient quantity has been collected, it is banked up, covered with 2 inches of soil, and beaten down with a spade. In a few weeks (about a fortnight or so before required for use) it is turned over, a little soot being intermixed. Theoretically, of course, this is the wrong way to use fowl-manure, since much of the nitrogen undoubtedly gets lost. But enough remains (probably more than there is in an average sample of stable manure) to provide our vegetables with what they want, and they get the humus which the soil badly needs. Furthermore, the novice is liable to do more harm than good in applying crude fowl-manure, which is a potent nitrate. With the compost he is, at any rate, less liable to make a mistake. A. T. J.

THE GARDENS AT STAGHURST, BERKAMSTED

BY THOMAS H. MAWSON.

THE Editor of THE GARDEN, in asking me to write a few words of description to accompany the photographs which illustrate this article, has set me a task than which it would be difficult to find a more pleasant one. As will be seen by the state of growth in the trees and shrubs shown in the illustrations, I have to look back some years in assisting memory to conjure up once more the pleasant days I spent at Berkhamsted with my friend Mr. C. J. Gilbert when helping him to design his garden. Still, the reader who knows anything of the length of time it takes usually to establish clipped hedges and the other arboricultural features shown will be surprised to find that it is only seventeen years since Mr. Gilbert, Mr. Rew, his architect, and I, in the happiest, completest and most perfectly harmonious collaboration it is possible to imagine, together produced and materialised the designs for house and garden at Staghurst. I lay special stress on this collaboration, not only because I do not wish to take upon myself the entire responsibility for a most successful scheme, but because it is the one feature which comes most vividly and happily to my mind whenever, in these sad days of war, I once again seek solace in this now beautiful garden, or when any circumstance arises to conjure up in my mind the work done there.

STAGHURST: HOUSE AND GARDEN WITH PENZANCE BRIARS.

It is a beautiful garden, as I have already said; and I feel sure that its beauty arises first and foremost from the complete mutual understanding which existed throughout the work between the owner of the property, his architect, and myself as garden designer. This community of interest and complete understanding of the aims of the garden designer on the part of the architect and the client is the one factor which can, and fortunately, I may say, often does, make the work of the garden designer the one above all others which, had I my time over again, would effectually prevent my ever choosing any other profession.

Again, it would have been a dull and stupid man indeed who, visiting the site for this house and garden for the first time, would not have been impressed and would not have had his imagination quickened by the glorious outlook from it and the exceptional opportunities presented by its situation and surroundings. We stood on high ground commanding the main deep valley cleft through the Chiltern Hills, along which runs the London and North Western Railway main line to the North, and saw before us a long panorama of hill and dale surrounding it and the lateral valleys joining up with the main one. At our feet lay the ancient town of Great Berkhamsted, and the views in every direction were most charming: they were alone enough to impel one to do one's utmost with such a site and such surroundings.

The first thing, of course, was to choose the site for the house, and, in order to economise to the utmost the one and a quarter acres at our disposal and to obtain for it as much privacy as possible, the usual winding and rather meaningless and pretentious carriage sweep was dispensed with and the house placed in such relationship to the quiet roadway that only a small carriage court, sufficient for the needs of the case, intervened.

The house itself is designed on those simple, straightforward lines which always produce the most artistic results, and is practically devoid of anything which would be called "mere ornamentation." The details are treated in a manner which gives a suggestion of rugged strength, particularly in keeping in the case of a building which stands "four-square to all the winds that blow" on a hill overlooking such a wide expanse of country. It is sheltered on the north by the arrangement of the conservatory and outhouses. The east, we have already seen, is occupied by a carriage court, though, owing to the irregular shape of the ground, it has been possible also to provide a "wilderness" wherein luxuriate all kinds of free-growing things. They have already reached sufficient size to give a good deal of additional shelter.

The garden proper lies on the south and west sides, and on these the house is surrounded by a pretty terrace bounded on the south by a hedge of Penzance Briars, and on the west by a beautifully grown and dense hedge of Cotoneaster macrophylla, which is not only exceptionally fine in itself and in fulfilling its function as a boundary to the terrace, but also forms a part of the shelter hedge to an enclosed garden which occupies this side of the ground.

This enclosed garden takes the form of a tennis court, along the south end of which runs the pergola shown in one of the illustrations, and which is formed of a series of arches strongly made from Larch poles, thickly covered with masses of climbing Roses, Jessamine, &c. It is made

particularly interesting at its western end by the treatment of the boundary hedge, which is here clipped into a circular opening, through which, and framed by which, we see one of those magnificent prospects which have already been described.

North of the tennis lawn the whole of the design is dominated by the position of the garden entrance from the house and the path which runs from it straight across the garden to the boundary at right angles to the house. On one side this is separated from the tennis lawn by a steep bank covered with a most luxuriant growth of Cotoneaster macrophylla, which is also clipped to the form of a low hedge bounding the walk. At the other side of this path is a mixed border backed up with a clipped hedge, which divides it from the kitchen garden. The shape of the ground has also allowed of a little extra cropping ground to the west of the tennis lawn.

On the south side of the house the terrace already described is connected by a flight of steps with a formal garden, in the centre of which stands a sundial specially designed for its position. This is divided from the tennis lawn by a Rose fence.

This very short and, I fear, somewhat inadequate description of the garden will at least be sufficient to show that quite a remarkable amount of variety has been found possible in the treatment of this small plot of only 1¼ acres, including that portion on which the house, the outbuildings, the conservatory and the carriage court stand. This is only possible because it has been treated in what is usually known as the formal style of gardening, but how little real formality there is in this style will be immediately evident on glancing at the illustrations.

The moral, if one may be allowed to draw one, is that one should be very careful in gardening, as in everything else, not to allow merely a name or the antecedents of a given style to prejudice one against it, but, considering all the circumstances of the case, to choose that which is best suited to the conditions which prevail and to the object which we ultimately have in hand.

One word in conclusion. However well a garden may be planned, it can only realise its highest perfection when both proprietor and gardener are in sympathy with the designer's ideals. The success of the gardens at Staghurst has been attained by this happy combination of interest.

STAGHURST: SUNDIAL IN FORMAL GARDEN.

ASPARAGUS BEDS

NOW that the season of Asparagus has reached its height, I consider the time most opportune to call attention to many of the mistakes made both by amateur and professional gardeners when dealing with this crop, and in a season like the present, when all of us are out to lessen the consumption of bread and imported foodstuffs as much as possible, it is safe to assume the evils will be aggravated rather than lessened; but those who cut the young shoots without discretion do so at the expense of the next and future years' crops.

Possibly the greatest transgressors are found among those who last year made up new beds by planting one or two year old plants, and, in a less degree, others who only recently added an Asparagus bed to the garden. Neither of these should attempt any cutting during the present season, but, instead of weakening the plants by so doing, assist them to make good strong growth by giving copious supplies of water before the soil gets very dry and carefully removing all weeds.

Cutting from old-established beds should be continued until the beginning of the third week in June, when, if next year's crop is expected to equal or surpass that obtained now, except where circumstances compel longer cutting, it will be to the advantage of both grower and consumer if those in charge of the garden declare the Asparagus beds to be "out of bounds" for the season. But this declaration will not relieve the grower of his responsibility so far as the beds are concerned for the season, for, contrary to the idea of many, it is just when cutting stops that extra attention should be paid to the bed, and this not only to remove obnoxious weeds, but also in the application of manures, except where these were liberally supplied during the month of April. If this is not done now, it is hardly to be expected the quantity or the quality of the shoots will be up to the usual standard.

I am quite aware that in advocating this treatment in June instead of in early spring I am advising a line being taken directly opposite to that practised by many gardeners, who, after making the final cutting, take little or no care of the beds until the time comes round for tidying up next spring; but I cannot help thinking that it is the stress of work at this busy season rather than the idea that it is the correct course to pursue which largely accounts for the jungle-like appearance of many Asparagus beds from July onward. It is strange that although we never tolerate weeds of any kind to remain long growing among less important crops, yet the bed of this, acknowledged by almost all to be the very choicest of all spring vegetables, is too often allowed to provide congenial quarters for almost every weed known to the gardener, and, thanks to the rich soil, these grow rampantly, each one taking away a certain amount of nourishment which can be ill spared by the large, fleshy roots of the rightful occupants if these are to do all that is expected of them.

A good plan to follow by all who next spring would have Asparagus from their own gardens equalling that now offered in first-class shops will be to give the bed a dressing of either of the largely advertised proprietary manures, burying this a few inches below the surface by means of a small hand-fork. After washing this well down to the roots with clear water, and before the soil gets dry, give copious applications of liquid manure, and before the foliage gets too high and heavy insert a few bushy sticks at intervals of a few feet over the bed to assist the plants to maintain their correct position in the event of heavy rains and strong winds, which in some seasons play havoc with the tops and thus weaken the crowns.

F. R. CASTLE.

STAGHURST: TERRACE AND FLOWER BORDER.

TULIP TITTLE-TATTLE

BY THE REV. JOSEPH JACOB.

At the Drill Hall, May 22.—As a lover of my country I am sure the Council did the right thing when they annulled the Chelsea fixture; but when I saw the magnificent show of young Tulip bloom in the somewhat dimly lighted Drill Hall on May 22, my floral soul was stirred within me as my mind wandered back to the well-filled mammoth tent of the great spring show, and I thought of the what-might-have-been were the times not out of joint, for Tulips would have been there as they had never been before. This latest of late springs would have given them the chance of years. That they would have risen to the occasion is more than a hypothetical certainty. As it was we had a grand gold medal group from Dobbies, in which was a vase of the pale mauve Norah Ware of exquisite excellence; "silver-gilt Floras" from Mr. A. D. Hall, F.R.S. (let me take this opportunity of congratulating him on his appointment as Permanent Secretary of the Board of Agriculture), and from Barr and Sons; "silver-gilt Banksians" from Sutton and Sons, R. W. Wallace and Son and R. H. Bath; and a "silver Flora" from Mr. Peters, the hon. secretary of the Royal National Tulip Society.

A rich dark crimson with an Isis-like base (for pictures of bases see the great Tulip book about to be published by the Royal Horticultural Society) named Eclipse received an award of merit. It is not a bad description to call it a King Harold improved. Andromaque, which was included in both Barr's and Bath's groups, is one of the "finds" of the Wisley trials, where its fine bearing and rich dark blue toned carmine colour made it a prominent variety. It looked well on May 22, and should have been put up for an award. It would have had one vote, at all events. Bacchus, a deep rich plum purple Dutch breeder, was staged in more than one group in excellent condition. By "plum" it is intended to convey the idea of colour which is found on a "Kirke" and not on a "Victoria," although why it should be so is difficult to explain, any more than why cherry colour is always red. Marconi and Paul Boudry are two other good dark varieties of almost the same shade of claret purple. Both were shown in Wallace's group. It is a strange physiological fact, which enquiry leads me to infer is by no means confined to myself, that a Tulip may have bloomed in my garden for many years in succession without being noticed as anything particular, when suddenly it wakes up, as it were, to find itself famous, for every visitor of importance is taken to see it and it becomes aware that it is a centre of attraction and no longer an unnoticed Cinderella. A parallel case in literature would be that of R. L. Stevenson's "Treasure Island." Until a discerning firm of publishers presented the tale to the world in volume form, no special notice was taken of the work that first made him famous. Among Tulips, The Bishop is one case in point. That, however, is ancient history. An up-to-date example is a Dutch breeder, Lord Macaulay, which in a semi-opened state features that aristocrat of aristocrats, Louis XIV., but which eventually develops swarthy buff edges and tops to its rich dark recurving petals, so that in its fully opened condition it is a sight for the gods. Another example occurred last year, and it, too, was a Dutch breeder. Fabius then established its reputation. It is a quiet, unobtrusive-looking bloom until it is seen against a May sun, when the flower becomes a most beautiful pale ruby red, yet so rich-looking and clear. I feel I am toasting someone, "My best respects." These varieties are rarities. A more practical example is the red Darwin Flambeau. Mr. Leak and myself discussed Tulips over that refuge of harassed well-to-do *rationées*, a plate of salmon, on the occasion of the last Royal Horticultural Society's show in May. He said it was one of the best lasters among the brighter reds, and stood unpropitious weather very well. My first task on reaching home was to pay it a visit. Its position might have had a little to do with it, but there was no doubt which was Flambeau. To Mr. Leak:

"Thanks, thanks to thee, my worthy friend,
For the lesson thou hast taught."

To Flambeau:

"Friend, go up higher."

A Memory of Gravetye.—My first visit to the great preacher of open-air gardening at his lovely Sussex home will for ever be associated with Tulips. The master was right. It was the best bit in the garden, and so simple. For the moment he was the Grand Vizier, and my friend the Editor of THE GARDEN and I were his guests at one of those Tulip feasts of old Constantinople—a profusion of soft, warm pale rose and pink, and rich yellow Azaleas with Gesneriana lutea peeping up here, there and everywhere in their midst on gently rising ground. That was all, but nothing could have been more beautiful. Tulips, pink and rose Azaleas, Robinson, Gravetye, are for ever linked together in my memory.

A Literary Allusion.—Possibly I am wrong, but it seems to me that the Tulip has invaded the pages of literature for many generations in a way that no other flower has done. From the days of Petrus Hondius and Gerard, writers for one reason or another have introduced Tulip allusions into their pages. Few people to-day read the writings of the fashionable goody-goody poet of the early years of the eighteenth century, and so the lines of bitter satire in the second part of "The Universal Passion" are but little known. As a man Edward Young the divine may be variously appraised. There can be no doubt, however, but that he had the power of incisive writing from his own point of view:

"Why teems the earth? Why melt the vernal skies?
Why shines the sun? To make Paul Diack rise.
From morn to night has Florio gazing stood,
And wonder'd how the gods could be so good."

George Eliot would have said his introduction of the Quaker gardener who "cropt" the florist's favourite flower with his self-righteous reply was thoroughly characteristic of the poet:

"Lo! 'twas crushed by me,
Fall'n is the Baal to which thou bow'dst thy knee."

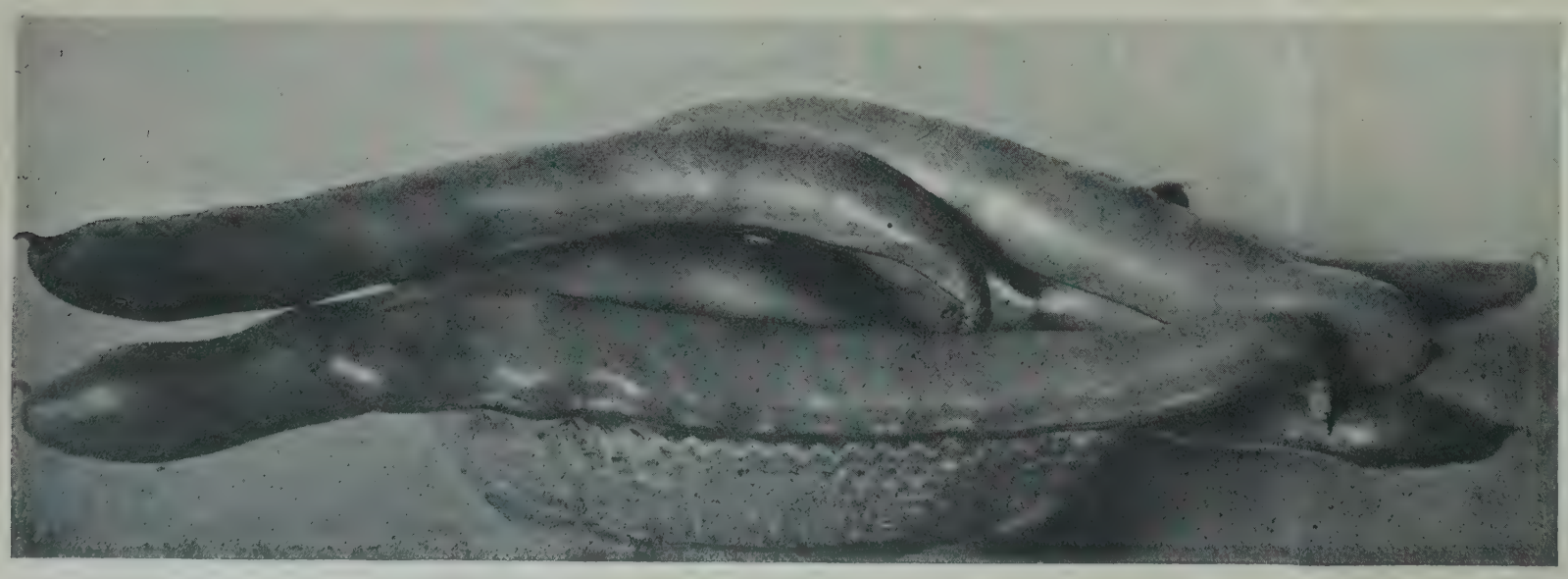
This was a little too much even for Young, and so he ends:

"What's he who sighs for wealth, or fame, or power?
Another Florio doting on a flower?"

Joseph Addison's allusion in the *Tatler* (No. 218, August 31, 1710) is equally satirical, but it does not leave behind the same unpleasant taste.

BROAD BEANS

ONE of the most useful summer vegetables is the Broad Bean when the pods are grown so that they can be eaten without so much cooking to make them palatable. When in a seedy state they are coarse and of peculiar flavour. Of late years there has been considerable improvement in this vegetable, especially in the Longpod section, a variety of which is illustrated. Doubtless the Longpods of late years have found more favour than the old Broad Bean, of which the Broad Windsor is the type, and I am inclined to think that, in addition to a better shaped pod, the Beans also are of superior quality. Take the Giant Green variety; this seems to have been a cross between the Windsor and the Longpod, and the result is a great gain. It possesses the size of the Windsor, with a much longer pod, containing seven to nine Beans, and these of a dark green colour, which is retained when cooked. The flavour is mild and delicate; indeed, if they are eaten in a young state, in my opinion they are equal to Marrowfat Peas.



THE GREEN LONGPOD BEAN.

There are other varieties, such as Mammoth Longpod, Exhibition and Prolific Imperial Longpod, and the older Johnsons, all well worth growing; and after these come the Broad Windsors, but these could easily be divided into two sorts—the white seeded and the green. I prefer the last named, as I think green Beans are of better flavour. I do not see any need for growing such varieties as the old Windsor with

two or three Beans in a pod; it is much better to grow some of the newer race, which give a double crop on the same space.

The Broad Bean has got a bad name through being gathered too old. In our own case we grow this vegetable largely, but gather the pods daily. The Beans when shelled are very little larger than Marrowfat Peas; this is the best way to serve this vegetable, and those who now dislike them would probably change their opinion if they tried them in this way. I have heard it stated that it is wasteful to cook the pods so young. I do not think so, as when the pods are allowed to mature it checks growth, whereas if gathered in a young state there is less demand on the plants, and they yield for a longer time.

We get very early supplies by growing under glass early in the year and then planting out. I am aware many would hesitate to grow Broad Beans in pots, but I can safely say there are few vegetables that give a better return if planting out is done carefully, and much earlier produce is secured. The old system of sowing in October or November in an open quarter is not advisable, as the plants frequently pass through the winter till, say, February, and then make new growth. Of late years this has been cut down by frost. We get much better results by sowing in a cold frame in January and planting out early in March. In this way pods are usually gathered early in June.

For late supplies the Broad Windsor section is the best. The varieties grown on a stiff soil do well, and many could eat these if the outer skin was removed before cooking. The Broad Bean should not be grown in poor land. I have referred to the cooking of Beans. On the Continent if they are at all old they are boiled and the skins rubbed off. There are several ways of cooking them to make them more appetising. I have seen them chopped up with fine Parsley and served with butter. I am aware that our old modes of cooking the Bean are mostly with bacon, but if bacon is procurable in these days I think the best way is to cook the bacon first and then the Beans, as if cooked with the bacon it spoils the colour of the Beans.

The culture of the Broad Bean is so simple that few words are required. I have referred to an early lot raised under glass. Another sowing should be made in the open in February or as soon as the ground is workable; another, three weeks later; a sowing in April, and another in May. These will give a long supply. The last two sowings are made on an east or north quarter, and if possible in heavy soil or a moist position. The plants should be topped early to get pods low down the stems and a sturdy plant.

The Broad Bean enjoys a deep, uninterrupted root run. Double rows should be placed in each trench, 3 feet apart at least, and the width of each 18 inches; the rows should be 10 inches apart and 8 inches allowed between the plants. Lift with a good ball of soil, using a garden trowel; place plenty of finely sifted cinder ashes between the plants to prevent them being ravaged by slugs, as these have a great liking for the young growths; give copious supplies of both clear water and liquid farmyard manure water when in active growth during dry weather, and after the plants show plenty of bloom the points should be pinched out. When extra fine pods are required, remove all side growths. The plants should be supported by driving in a few good stakes, and stretch two lines of stout tar cord along them to keep them in an upright position. Should black aphis make its appearance, thoroughly syringe the points with strong soft soap and water, a safe and sure insecticide for this.

The best strain that I am acquainted with is Leviathan. It is a fine exhibition variety, also very prolific and of excellent quality. Sutton's Exhibition Longpod is also good, and for the latest supplies the Broad Windsors are best. The new green variety is a great improvement.

By the way, has any reader tried cooking Broad Bean tops? I am told that they are particularly good. In any case the plants should be topped to get the pods low down on the stems. When fully ripened Broad Beans may be taken out of the pods and dried in a slow oven, then stored in tin boxes and put away in cupboards for use in the winter.

W. G.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—The recent rains have given a fillip to the growth. A sprinkling of agricultural salt to beds that show signs of weakly growth will be an advantage. Do not cut newly planted beds too severely nor cut all the grass from every root. Leave two stems to encourage root action. Any newly planted beds should have supports given to the plants to prevent them being broken by wind. Short Pea stakes thrust in among the plants is a good method. Keep the plants free from weeds.

Broad Beans.—Make a last sowing in the open, top the plants in flower, and feed well with liquid manure if extra large pods are required from those plants now swelling their pods. Keep the plants free from aphis by frequent syringings with soft soap dissolved in water.

Onions are growing away vigorously, especially those planted from early sown seed under glass. Keep the soil between the rows frequently stirred and dust the plants with soot occasionally, always, if possible, preceding rain. Do not thin the ordinary outdoor-sown plots much; a greater crop is secured by having the plants fairly thick in the rows.

Peas.—Make sowings of late varieties such as Gladstone, Ne Plus Ultra and Goldfinder. There is some irregularity in the germination of seed this year. Take all precautions to guard against this by well soaking the drills before sowing during dry weather, also by having the soil quite fine. In the case of rows where the plants have come up too thickly, pull out some of the weaker plants, as overcrowding is a mistake. The crop from crowded plants, neither in quantity nor in the quality of the pods, is never so good as from plants with ample space for development. Plants that have grown sufficiently high should have the points pinched off to hasten the swelling of the pods.

Coleworts.—Make a small sowing of these for early autumn use when the summer Cabbages are past.

Broccoli.—Put out the plants as fast as the ground is ready for them, in showery weather if possible. The smaller the plants are the better, as they receive less check.

Ridge Cucumbers.—The plants raised in pots in frames should be put out on small hillocks of manure or leaves with soil on the top. Shelter the plants with boughs from east wind for a few days. Sow more seed in the open for succession.

The Hardy Fruit Garden.

Newly Planted Apple Trees should be carefully examined for grubs, caterpillars and green fly. If the newly made shoots are crippled, the future progress of the trees is retarded; therefore it is imperative that the initial growth is not interfered with.

Wall Trees need careful treatment to cleanse the shoots from insect pests, which will cripple the growth and interfere with the swelling of the fruit. Pears have set an enormous crop. Early thinning of the fruit will be an advantage to the trees and the future prosperity of the crop. It is too early to say what Cherries and Plums may do in the way of cropping, but present appearances point to a huge display of healthy fruit.

Fruit Under Glass.

Peaches and Nectarines swelling their fruits, either before or after the stoning period, should be copiously watered and, where the trees are not making too strong a growth, have applications of liquid manure. Tie the shoots carefully to the supports, allowing each plenty of space. Too often they are overcrowded, which frequently militates against future crops. So many persons fail to understand the necessity of maturity in the wood of fruit trees.

LEVIATHAN BROAD BEANS.

Late Vines in flower should have a buoyant atmosphere by day with little atmospheric moisture, and not a lower night temperature than 65° until the bunches are fertilised. Tap the rods daily to disperse the pollen and thus ensure fertility. Directly the bunches are set, thin the crop, thus aiding the Vines to swell the berries of the selected bunches.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

A Crowbar is a handy implement for making holes in hard soil for Broccoli and other plants which do better in hard than soft ground.

Root Puddlings.—I strongly advise the roots of seedlings of all kinds of winter greens, Leeks, Lettuces and Endive to be coated with soft mud previous to being permanently planted. The term for this is "puddling."

Superphosphate of Lime.—A slight dressing of this manure applied to the surface of the ground about to be planted with vegetables (and flowers, too) has a very beneficial influence on subsequent growth. It may be either raked or hoed into the ground previous to planting.

Celery.—Even though the plants are small, provided they are well rooted they should be

planted in the previously prepared trenches. I have them lifted from frames in turf-like masses and divided singly at the trenches. They should be planted deeply and a little water applied to each, afterwards running a Dutch hoe through the surfaces, which completes operations for a time.

Cauliflowers.—Where these are difficult to grow during summer, it is a good plan to grow the seedlings for a fortnight in 3-inch pots, or just long enough to ramify the soil with roots and so form a ball for planting. Sowing where the plants are to remain is also satisfactory; but those in pots are useful for filling blanks where one crop follows another as the first is cut, a system that can be followed also with Cabbages and Lettuces, especially where ground space is limited.

Parsley.—Plants from seeds sown in January or February are ready to transplant, each needing at least one square foot of space and to be arranged in rows. The soil near the surface may be enriched, but as a rule the finest foliage is derived from soil not highly manured. This is the best way of cultivating Parsley, each plant providing a great number of fine large leaves. The one sowing usually provides a supply for twelve months. Enough plants should be left in the seed-bed to yield early pickings.

Broccoli.—As soon as the plants are strong enough to transplant, which will be now or soon, have them planted in firm soil; this produces a hardy plant well fitted to stand the winter's strain. Allow 3 feet between the rows and at least 2 feet between the plants. The earlier Cauliflower-like varieties require rather more space than those of the older type. Savoys, Winningstadt and Drumhead Cabbages may be planted at the same time; these require less space.

Rosette Colewort.—This is a valuable vegetable for use during the three months before Christmas, and by selecting the plants and making two plantings a succession may be had from the one seeding. Sow now.

French Beans forwarded in pots should be planted out on ground well protected and open to the sun. The seedlings from the sowing in May should be all up and have the soil between the plants deeply stirred.

Scarlet Runners.—These, too, should be planted from pots. The largest crops are obtained from bines trained to sticks or twine, but good crops are also had from plants kept dwarf by pinching. These need a space of 5 feet by 3 feet to get the best results.

Climbing Beans.—These do not succeed as well in Scotland as they do in the South, but sown under glass they give very large crops. They should now be producing freely and be as freely picked to keep the plants in bearing. Abundance of manure water is favourable to cropping and freedom from insect attacks. If dwarf varieties are coming on in cold frames, these, too, will need abundant supplies of water at the roots.

Cucumbers.—Owing to coal shortage this crop was later in being sown than usual. However, the plants have been bearing since the beginning of May, and the house is now well filled with fruiting shoots. The system I pursue is to stop at every leaf and cut every fruit while still quite young; later, and before exhaustion, bringing up growths from near the base to succeed the lower shoots. Much water is essential, also surface dressings of manure at regular intervals and of fresh soil occasionally.

Plants Under Glass.

Cinerarias.—It is now quite time to sow seeds. Plants by proper treatment can be had from Christmas onward. Frame culture is best, and for a time merely protect from adverse weather. Always transplant or repot at the correct moment. The Cactus-flowered varieties of the star-flowered forms are fine. Calceolarias must now be sown, too, cool treatment being essential. There is also time to obtain winter-flowering batches of Primula malacoides and its varieties. They are hardy plants, but not averse to warm treatment.

The Flower Garden.

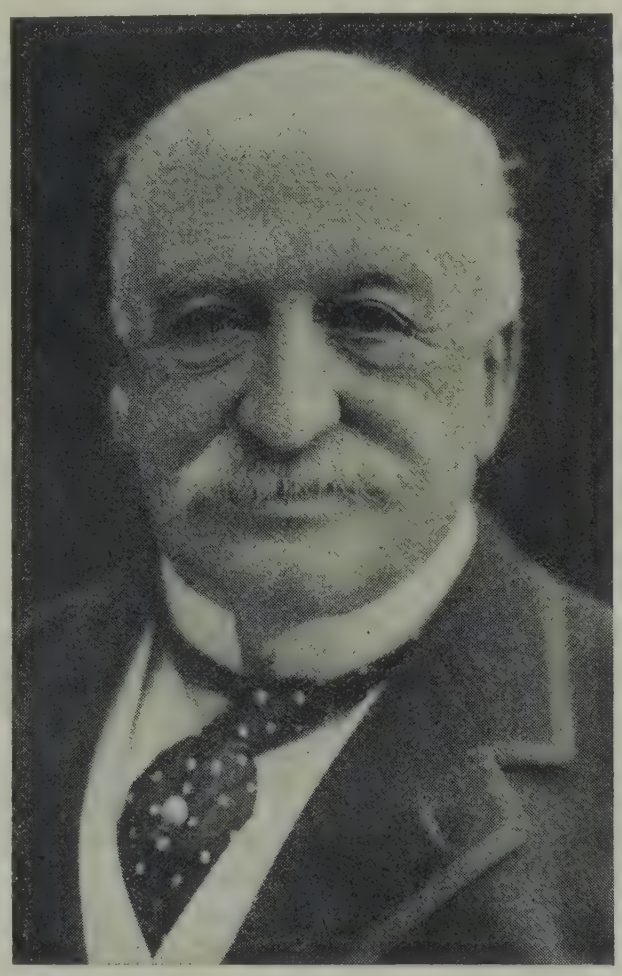
Mixed Borders.—To stake or not to stake will be an absorbing question at present. I saw borders last year that had been allowed to grow wild, and their appearance was awful. But what can be done when there is no labour? My plan in the past two years—which is being followed this—was to trim with a reaping-hook the tops of such things as Michaelmas Daisies, Hollyhocks, Helianthus, &c., but not Phloxes. Dahlias were pegged to the ground, and almost the only plants that were staked were Pæonies and a few Delphiniums. When there are thousands of sticks in use, the labour of setting in the ground, tying and, in autumn, clearing off is immense and out of the question in these times. My plan, happily, suffices.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

OBITUARY

LEOPOLD DE ROTHSCHILD.

By the death of Mr. Leopold de Rothschild we lose one of the great patrons of horticulture who devoted considerable time, thought and interest to the advancement of gardening. He was an enthusiastic lover of gardening in all its branches, with interest that amounted almost to passion for landscape gardening. The delightful gardens at Ascott, Leighton Buzzard, were his own design; while the gardens at Gunnersbury, where fruit and vegetable culture are carried out on an extensive scale, are known throughout the land. In 1912 he acted as President of the Jury at the Royal International Show. He was Vice-president of the Gardeners' Royal Benevolent Institution,



THE LATE LEOPOLD DE ROTHSCHILD.

and presided at the Festival Dinner in 1889 and again in 1913. He was also Vice-president of the Royal Gardeners' Orphan Fund. In his demise the gardening fraternity loses a great and sympathetic friend. The volume of THE GARDEN for 1913 was dedicated in his honour.

"Kew Bulletin" Suspended.—It is surprising to learn that the Controller of H.M. Stationery Office, hitherto publisher of the *Kew Bulletin of Miscellaneous Information*, has advised the editor of the *Bulletin* that it has been ruled that the *Kew Bulletin* is not essential, and that its publication has therefore been suspended. In view of the interest and importance of this small brochure and bearing in mind the useful nature of its work, particularly in disseminating information relating to the Colonies and India, this is surely another instance of the way in which a Government department will strain at a gnat and swallow a camel.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ANCHUSAS (*T. W. L.*).—The two species A. capensis and A. myosotidiflora are distinct in many ways. The first named is practically of biennial duration only. Occasionally, however, it is treated as an annual, when in favoured districts it may be had in flower in August and September. Not being reliably hardy, it requires protection in winter when treated as a biennial, and then flowers in early summer. Its brilliant blue flowers are of the size of a sixpence. Two feet or so high, it is also of erect habit. The other species hails from Siberia, is a true perennial, quite hardy, 1½ feet high, of bushy habit, and produces during May and June numerous bright blue flowers of large Forget-me-not size. It would do quite well in the rock garden, preferably in a cool root-run, and a group of it would be very pretty. Its specific name appears somewhat far-fetched, as the flowers do not in the least resemble those of the Myosotidium.

TREES AND SHRUBS.

CLEMATIS FOR NAME AND TREATMENT (*J. G.*).—The specimen sent for naming is Clematis montana var. rubens. It is quite hardy, and may be grown on a pergola, over a fence, wall, group of branches, low tree, or other support. Good loamy soil containing lime suits it, but the deeper the soil the better it is for the plant. Aspect is not of vital importance, for it gives good results in any exposure providing it receives a fair amount of sun. Although annual pruning is not absolutely necessary, it is wise to cut some of the flowering wood back to within an eye or two of the base as soon as the flowers fade. On no account cut the young wood back before it flowers.

PRUNING YEW, BOX AND EUONYMUS (*Chloe*).—The Yew bushes planted to form a hedge may be pruned in August. Prune moderately hard, and that will keep the hedge tidy throughout the winter. Box edging may be pruned at once or at any period during summer. Euonymus can be pruned at once, although late April is a better time. Weigela may be grown in two ways—severely pruned and unpruned. Pruning may be carried out as soon as the flowers fade. Cut away as much as possible of the older wood and rely on young wood for next season's flowers. Unpruned plants grow larger than pruned plants, and as a rule have a longer life, but they do not flower quite so well.

KITCHEN GARDEN.

SEED POTATOES AND THINNING THE "CHITS" OR HAULMS (*H. H.*).—It is a good plan generally to rub off the small or weak eyes or "chits" of seed Potatoes before they are planted, leaving, say, three of the strongest and best. This reduces the number of small Potatoes to a root and correspondingly helps the larger and better roots; but once Potatoes are planted, they should not again be interfered with. Superphosphate and sulphate of ammonia.—Apply this to the soil between the rows, forking it in 3 inches or 4 inches deep, and immediately afterwards mould up the Potatoes with the same soil. The time to apply it is as soon as the young plants are from 3 inches to 4 inches high. The varieties you mention are all good. We are sorry that through an inadvertence on our expert's part the answer to this question has been delayed.

FRUIT GARDEN.

INJURY TO RASPBERRIES (*Mrs. B. C.*).—The trouble with the Raspberries is due to the weevil Anthonomous rubi. This beetle lays its eggs in the blossoms and then punctures the shoot some distance down. It is useless spraying, but the beetles may be shaken off the canes on to a tarred board or one well greased, and thus captured.

INJURY TO APPLE TREES (*T. P. W.*).—It is probable that the eggs of the moths from which the caterpillars of which you complain were hatched were laid after the trees were planted. Spray them with lead arsenate at the rate of 1lb. to 20 gallons of water. "Fruit-Growing for Beginners," by F. W. Harvey, is an excellent little book. It is published from this office, price 1s. 10d. post free.

LEAVES OF VINE MADRESFIELD COURT DISEASED (*G. F.*).—In the first place, we consider the leaf sent as being thin and wanting in robustness and strength through its having been subjected to too great a heat during the early stages of its growth. This Grape is one of those which succeeds best under cooler treatment than most, the result being that the foliage was not able to withstand the fierce heat of the sun during the recent spell of hot weather; possibly also for the want of early ventilation to dry the foliage before the sun had obtained too great a power. It is well to have a little air on the front and back ventilators always in warm weather, night and day, opposite this Vine. We find this also helps to prevent the variety from scalding and splitting, to which it is subject.

HELP WITH A VINE IN A GREENHOUSE (*Mrs. H. A. G.*).—Do not coddle your Vine too much as regards temperature. Let it take its chance with other plants as regards ventilation. This will suit it all right during summer. You do not say whether the border is inside or out. If outside, it will not require watering so often as if it were inside. If the border is inside, during the height of the growing season it should be watered, say, every three weeks. Let the surface be covered over with a mulching of manure 3 inches deep, and see that the border does not suffer from the dropping of water from pot plants after watering. If the border is an

outside one, serve in the same way. In dry weather it should be watered every three weeks, but during wet weather once a month will be often enough. Mix Peruvian guano with the water when watering (a handful to two gallons), and see that it is well dissolved. Let the young shoots on which the bunches of Grapes appear be stopped at the third leaf beyond or above the bunch. Subsequent young shoots (termed "laterals") which will appear on the above shoot should be stopped in the same way as soon as three young leaves have been formed. This will keep the young Vine growth well under control throughout the summer. Thin the Grapes as soon as they have formed. You will find that the berries are arranged in sets of three. The way to thin is to cut out two and leave one—the best, of course. Write us again later saying how you are getting on, and we will help you further.

MISCELLANEOUS.

A SLUG-EATING SLUG (*H. S. O'B.*).—The slugs sent are carnivorous, and we think you should look elsewhere for the culprits attacking your Onions. The usual food of these species of Testacella is worms and slugs.

A WEEVIL IN THE LILY-BEDS (*Miss G. M. H.*).—The weevil sent (the clay-coloured weevil) will eat Lily leaves, but we think there is probably some other pest at work. The weevils should be captured, however, and this is best done in the evening when they are feeding on the plants. The plants should be shaken over a cloth or paper spread beneath them, and then a bright light suddenly flashed upon them, when the beetles will fall to the earth and feign death. They may be killed by immersion in boiling water, or in water having a film of paraffin on its surface.

SMALL BONE CRUSHER (*X.*).—You will find the bone crusher supplied by Mr. L. Dunker, Rugby Road, Hillmorton Paddox, useful for crushing bones in small quantities where only a dozen fowls are kept. Incidentally, it might be mentioned that crushed bones are of great value as manure in the fruit and vegetable garden. The best results are obtained if you bake the bones or shell thoroughly in an oven before crushing, and when you do, do not attempt to crush too much at the time. After the crushing has been done, lift up the circular shell of the mortar and scrape off the material. Pass this through a sieve of suitable mesh and return to the mortar such material as requires recrushing.

NAME OF FRUIT.—*T. G. Kinver.*—Apple Annie Elizabeth. We quite agree with the high opinion you have formed of this Apple. We know of no variety to equal it at this time of the year. It was raised as a seedling from Blenheim Orange. See THE GARDEN of March 17 for an illustration of the original tree and its history.

NAMES OF PLANTS.—*M. T. P.*—Paulownia imperialis. ——*J. F. A.*—1 and 2, Saxifraga Aizoon; 3, Sedum anglicum; 4, Saxifraga affinis; 5, Linaria æquitriloba; 6, L. Cymbalaria; 7, Sempervivum arachnoideum; 8, S. tectorum; 9, S. blandum; 10, S. triste; 11 and 12, S. arachnoideum var. Laggeri.——*G. Y.*—1, Fagus sylvatica var. heterophylla; 2, Prunus Padus; 3, Pyrus Aria; 4, Sambucus nigra var. laciniata; 5, Garrya elliptica.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

AN exhibition full of beauty and much variety was brought together on the occasion of the fortnightly meeting on June 5. Popular flowers, such as Columbines, Sweet Peas and Snapdragons, were grandly displayed by Messrs. Dobbie; Irises from Colchester constituted a feast of these unique summer flowers impossible of description; vegetables from Messrs. Barr were of much merit and interest; while Roses, alpines and Orchids each contributed their quota to a gathering well up to the average of summer displays.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. J. Green, G. Reuthe, W. P. Thomson, C. R. Fielder, Clarence Elliott, H. Cowley, E. H. Jenkins, T. Stevenson, W. Howe, J. W. Barr, W. H. Page, A. Turner, C. E. Pearson, J. Dickson, W. Cuthbertson, Sydney Morris, J. T. Bennett-Poë, George Paul, W. G. Baker, W. J. Bean, J. F. McLeod, C. Dixon, R. W. Wallace, R. C Notcutt, G. Harrow, E. A. Bowles and J. Jennings.

By far the finest exhibit of the meeting was that of commonplace flowers—albeit not shown in a commonplace way—from Messrs. Dobbie and Co., Edinburgh, who with Sweet Peas, Columbines and Snapdragons once again demonstrated their skill both as cultivators and exhibitors. Nothing, indeed, could be finer than this great array of flowers and the excellence that had been achieved with subjects that the ordinary amateur loves to grow and which not a few also cultivate with conspicuous success. The centre of the group was of Snapdragons (Antirrhinums), Yellow Queen, Moonlight (red and yellow), White Beauty, Nelrose (pink), White Queen, Cottage Maid (rose and white), Primrose King and Coccinea (rich red) being some of the best, though Amber Queen was also very beautiful. The Columbines (Aquilegia) represented the firm's long-spurred strain, white, blue, rose and white, yellow, scarlet and yellow, and other colour combinations being noted. We have never before seen these flowers in such excellence. The Sweet Peas were also very fine for this early date, Dobbie's Ivorine, Tom Jones and Alex Malcolm (scarlet) being some of the best.

Messrs. Allwood Brothers, Hayward's Heath, showed Carnations well, more particularly of British Triumph, Carola, Salmon Enchantress, Rosalind, Bishton Wonder and Mary Allwood, all of which were very good.

Hardy flowers and choice shrubs from Mr. G. Reuthe, Keston, contained many good things. Conspicuous items were Magnolia Watsonii, Embothrium coccineum, Rhododendron Roylei grandiflorum and Edwardsia grandiflora. Of alpines, Ramondia serbica, Orchis maculata alba, Campanula thyrsoideus, Horminium pyrenaicum (rich purple), Sedum pilosum (pink) and Asperula nitida (pink) were among the best.

Messrs. B. R. Cant and Sons, Colchester, had a small exhibit of Cluster Roses, together with Austrian Copper and Austrian Yellow.

Mr. G. G. Whitelegg, Chislehurst, Kent, showed alpines very finely, a big spreading carpet of Edraianthus Pumilio and E. pumiliorum making the finest exhibit of these we have ever seen. A hundred plants were a mass of the royal purple cups, which constituted a feature. Dianthus alpinus (very rich in colour), Silene alpestris fl.-pl. (very pure), Phlox Vivid and Saxifraga calabrica (pure white pyramids of flowers) were noted. S. Dr. Ramsay and Asperula Gussonii were also beautiful.

Mr. J. C. Allgrove, Langley, Slough, had an interesting group of hardy things with a background of Eremuri, E. robustus albus and E. Elwesiana being the chief. Rheum Alexandræ (with creamy bracts), Thalictrum aquilegifolium rubrum, Saxifraga lantoscana superba, Magnolia parviflora, M. Watsonii, Robinia Kelseyi and Spiræa Wilsonii were among notable things. A charming example of Dianthus auvergnense, full of rosy pink flowers, was also noted.

Messrs. Piper, Bayswater, showed Clematises in great variety, Nellie Moser, President (deep purple), Ville de Lyon (red), Marcel Moser (mauve pink) and Mrs. Cholmondeley being some of the best. Azalea rosæflora was very beautiful, as was also Cytisus Dallimorei and Carpenteria californica. The firm also showed alpines in variety.

Messrs. Stuart Low and Co., Enfield, contributed a fine bank of Streptocarpi, the cold-grown plants sturdier and even more full of flower than ever. In white, blue, pink, violet and other shades they were charming indeed. Leptospermum Nicholsii (red), L. Boscawenii (pink) and L. verticillata (scarlet) were all beautiful. Messrs. Low also showed excellent stands of Carnations, Mephisto, Red Ensign, Matchless (white) and Scarlet Carola all being good.

Messrs. H. B. May and Sons, Edmonton, showed Fuchsias, Ivy-leaved Pelargoniums, Heliotrope and Scented Pelargoniums in standard form, with hardy Ferns, Scolopendriums and others beneath. Gardenias, Asparagus deflexus (a most graceful plant), Verbenas and Hydrangeas were also shown.

Messrs. W. Cutbush and Sons, Highgate, N., arranged goodly groups of Hydrangeas, Primula japonica and Amaryllis.

In a group from Messrs. Paul and Son, Cheshunt, Rosa Webbiana was pretty. R. microphylla × Rugosa, a large pale pink flower intermediate between the parents, was very charming. R. xanthina (yellow) was also good. Pæonia albiflora, P. lobata, Lonicera fuchsioides and Cercis Siliquastrum alba were notable. The double white Lilac Ellen Willmott is at once the best and latest of all the Lilacs, and very fragrant.

The table of Irises from Messrs. R. Wallace and Co. was one of the features of the show. Some of the finer things in a great group were Prosper Laugier (very dark), Rhein Nixe (white and violet), Lady Foster, Trojana, Isoline, Alcazar, Ossian (yellow and red), Neptune, Edouard Michel, Iris King and Ma Mie (a much-improved Mme. Chereau). Varieties of I. sibirica and the pretty I. gracilipes were shown, also I. bracteata and others.

Mr. J. Douglas, Great Bookham, exhibited very fine Border Carnations, Mrs. Brotherston (freckled Clove), Goliath (yellow), Lieutenant Shackleton (buff), Elizabeth Shiffner, Hercules (very dark), Orange King, and My Clove (a lovely pink) being notable.

Mr. J. C. Jenner, Rayleigh, contributed Carnations Carola, Mrs. C. F. Raphael, Mary Allwood, White Enchantress, Sunstar and Triumph among others.

Mr. G. W. Miller, Wisbech, showed many hardy flowers, notably Pyrethrum Princess Mary, of which a central bank was composed. Heuchera tiarelloides (a lovely pink) and Pæonia Esperance (a yellow Tree Pæony with crimson base) were most charming.

A large variety of Lilacs, together with Cratægus, Cytisus and others, came from Mr. R. C. Notcutt, Woodbridge.

Messrs. Frank Cant and Co., Colchester, had interesting Roses, such as Perle d'Or, Yellow and Copper Briar, and a variety of cluster sorts.

Messrs. J. Cheal and Sons, Crawley, showed Fraxinus Ornus, Viburnums, Rhododendrons and Azaleas in charming variety. A. coccinea speciosa and A. Daviesii (white and yellow) were very good. Deutzias, Spiræas and Cytisus were very beautiful.

Mr. Elisha Hicks, Twyford, showed beautiful masses of Roses Queen of the Belgians (single pink), Harrison (yellow), Princess Mary, Copper Briar, Star of Honour (single white), Mrs. George Norwood and others. Louis Barbier was charming.

Mr. F. Gifford, Hornchurch, showed a lovely lot of Pæonia alba grandiflora, which were very beautiful.

A most important item in a group from Messrs. H. Cannell and Sons, Eynsford, was Thalictrum aquilegifolium rubrum; it was very fine.

Mr. Clarence Elliott, Stevenage, showed many alpines, Pentstemon Davisonii, Dianthus neglectus, D. Firefly, together with Oxalis and other charming things.

Mr. Amos Perry, Enfield, showed a variety of Poppies, King George and Mrs. Maurice Bevan and Iris sibirica Perry's Blue being good things.

Mr. H. J. Elwes showed Eremuri, Pæonia, Meconopsis, Allium and other plants, which were of great interest.

Roses from Messrs. W. Paul and Sons, Waltham Cross, included Paul's Scarlet Climber, White Tausendschön and others.

Orchids from Messrs. Armstrong and Brown, Tunbridge Wells, included Miltonias, Odontioda General Haig, Odontoglossum Chanticleer, O. eximillus and O. Menier St. Vincent. Miltonia vexillaria Sir Mervyn Buller, pink, with crimson mask, secured an award of merit.

Messrs. Sander and Sons, St. Albans, showed Lælio-Cattleyas chiefly, with Miltonias.

Messrs. Stuart Low and Co. showed Cattleyas and Odontiodas.

Sir Jeremiah Colman, Bart., had fine plants of Dendrobium acuminatum, Thunia gattonensis and Saccolabium ampullaceum.

FRUIT AND VEGETABLE COMMITTEE.

Present: J. Cheal, Esq. (chairman), the Rev. W. Wilks, and Messrs. P. D. Tuckett, E. A. Bunyard, H. Markham, J. C. Allgrove, A. R. Allan, P. C. M. Veitch, W. H. Divers, J. Vert, W. Bates and G. P. Berry.

The collection of vegetables and salads from Messrs. Barr and Sons, Covent Garden, W.C., for which a gold medal was deservedly awarded, was of a most comprehensive character. Carrot Barr's Earliest, Pea Alderman, Cauliflower Best of All, Marrows Long Green and Perfection, Potatoes Sharpe's Express, May Queen and Midlothian Early, Tomato Stirling Castle, Cucumber Delicacy, Asparagus and others were well shown. In all some five dozen dishes of excellent produce were staged.

KEW GUILD.

THE annual general meeting of the Kew Guild was this year held in the Lecture Room at the Royal Botanic Gardens, Kew, on the evening of June 2. There was no dinner on this occasion. Mr. C. H. Curtis presided over a somewhat small gathering. Among the Old Kewites present we were pleased to see Sergeant Barnett of Otago, New Zealand. Sergeant Barnett came over with the New Zealand Forces, and having been thrice wounded, from which he has happily recovered, he is now returning to New Zealand to take his discharge from the Army.

In the course of his presidential address Mr. C. H. Curtis made the excellent suggestion that the Guild should raise some form of war memorial to those members who had fallen in the service of their country and to those who had joined the Colours. A new fund was opened with the express object of sending parcels to members of the Guild who have the misfortune to be taken prisoners of war. So far only two members are known to be prisoners.

Over 150 members of the Guild are serving in His Majesty's Forces; eight, as already recorded, have fallen in the service of their country; and since the Journal, 1917, was published we regret to have to further report the loss of Second-Lieutenant M. B. Scott, Corporal H. M. Woolley and Private A. E. Baggs. It is with regret that the committee also have to report the deaths of the following members: Professor Daniel Oliver, F.R.S., Dr. H. H. W. Pearson, F.R.S., Messrs. George Massee, V.M.H., F.L.S., William Foden, Gustav Mann, Robert Wright, James Forsyth, Hugh Price, John H. Stephen, William C. Trotter and Harry Hughes.

The members of the committee who retired under Rule 4 were Messrs. C. W. Mayhew, L. Recordon, G. H. Ridley and W. Taylor, and Mr. C. H. Curtis as president caused a fifth vacancy. The following were elected to take their places: Messrs. T. W. Brown, S. A. Skan, H. Spooner, A. Menissier, and M. Free (nominated by the Association of Kew Gardeners in America). Messrs. J. Clark and D. Halkerston have been co-opted as representatives of the sub-foremen and gardeners respectively. Messrs. W. Hales and J. Aikman were elected auditors for the ensuing year.

TRADE NOTE

THE SANITAS COMPANY, LIMITED.

THE many specialities of the Sanitas Company, Limited, Limehouse, London, E., are extensively used not only in the home, but also in the garden. To rid the garden of slugs and snails and to protect seeds and plants from other pests, such as worms, rats, mice, sparrows, cats, &c., Sanitas Powder is popularly employed. This firm's Distemper, too, is strongly recommended for the walls of all garden and potting-sheds, forcing-pits, greenhouses, &c., as an insecticide and disinfectant; while their Sulphur Candles are most useful for fumigating greenhouses, &c. To many uses can Sanitas preparations be put where livestock are kept. Their Special Sawdust makes an excellent bottom layer for poultry-nests and rabbit-hutches. Their Powder can be sprinkled freely about stables, kennels, poultry-houses, rabbit-hutches, cow-sheds and the like; while the Veterinary Ointment should have a prominent place in the medicine cupboard. Sanitas Crude Disinfecting Fluid is a strong preparation that ensures against disease in the stable, kennel and poultry-yard, and for fumigating poultry-houses and other buildings after an outbreak of disease the Sulphur Candles are widely used. The preparations offered by this firm are numerous, and all who have a garden or keep animals or livestock should become fully acquainted with the specialities. Descriptive leaflets are sent on receipt of a postcard.

PUBLICATIONS RECEIVED.

"Practical Potato Growing and Storing," by A. G. Gentle, Little Gaddesden; price 1s., post free

"The Worker's Garden," by G. W. Butcher and C. Harding. Published by the Vacant Land Cultivation Society, 14, Buckingham Street, Strand, W.C.; price 6d.

"Jottings of a Gentleman Gardener," by E. T. Ellis. Published by L. Reeve and Co., London; price 3s. 6d. net.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.*

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 10s. 10d; Foreign, 13s.*

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

SHOULD the feeding question reach its worst point, those poultry-keepers who are unacquainted with the values of both the best and least known foods will be the first to be compelled to sacrifice their fowls. Success in egg-production has always depended more or less on the feeding of the layers, and yet this branch is the weakest in the average poultry-keeper's routine work. That is why there are, and have been, so many failures and empty egg-baskets! The present crisis should put poultry-keepers on their guard in this direction, so that later they will be able to *play for safety*. A case came to my notice only last week where a man with 500 head of laying stock considered the home-growing of poultry foods quite "above his head." His birds will be the first to go to the wall! The larger the number of fowls kept, the more urgent is the need for studying the innumerable feeding problems. The test will come when the miller or the corn-dealer offers a "substitute" for this or that and the poultry-keeper in Oxfordshire cannot obtain those foods which are freely on offer in Yorkshire, and is compelled to use others instead. It will be essential to know not only what foods to give to the fowls, but also how, when and in what quantities.

A Day's Ration.—In my last notes I mentioned that a laying hen required a daily ration containing 1 part of albumen to 4½ or 5 of carbohydrates. If all the food given per diem has this combined albuminoid ratio, it will be sufficient for maintenance, egg-production and "wear and tear." As an example, supposing you were using the mash and grains mentioned below, you will be able to find out the combined ratio in quite a simple manner:

Mash.	*Parts.*	*Grain.*	*Parts.*
Middlings	4	Oats	2
Bran	3	Maize	1
Fish-meal	¾	Dari	1

If we know the albuminoid ratio of each ingredient—ascertained by the agency of the formula I gave last week—it is easy to find out the combined ratio. As I explained, where *two parts* of a food are used, its ratio must be multiplied by 2; whereas if only *half a part* is used, we divide by 2. Wherever you see a menu in which the ingredients are given in *parts*, the latter are by weight (whether ounces or pounds) and not measure. Taking the foods before referred to, the albuminoid ratio appears in parentheses after each, viz., wheat middlings (1 to 4), wheat bran (1 to 4), fish-meal (1 to ½), oats (1 to 6), maize (1 to 8) and dari (1 to 6). Our little sum then is as follows:

	Parts or lbs.		*Albumen.*	*Carbohydrates*
Middlings	4	=	4	to 16
Bran	3	=	3	,, 12
Fish-meal	¾	=	¾	,, ⅜
Oats	2	=	2	,, 12
Maize	1	=	1	,, 8
Dari	1	=	1	,, 6
Total			11¾	to 54⅜

By dividing the total carbohydrates by the albumen, we discover that the ratio is 1 to 4½. Any greenstuff supplied must also be taken into account, so that it will be seen how easy a matter it is to make up as near as possible an "egg" menu.

Use of Oilcakes.—Up to now the poultry-feeder has not supported oilcakes, leaving these for the larger farm stock. After the oil has been extracted, the residue from the raw products, whether nuts or seeds, is in the form of either pressed cakes or meal. Both have about the same feeding values. As regards cakes suitable for poultry, I may mention cocoanut, palm kernel, linseed and cottonseed. All four represent highly concentrated foodstuffs, and the last two in particular must be fed with care. Of the four, cocoanut cake appeals to me most, as it is very palatable and tends to make the mash nice and bulky, which is to be desired. These cakes, however, need careful preparation. They must be soaked in water for many hours until they have swollen thoroughly, otherwise the material will complete its "bulking" inside the hen. If the meals are used, these, too, need thorough scalding with hot water and steaming. Below I give four useful "egg" soft mashes, and, in order that my readers may work out the albuminoid ratio, the ratio of each food is here given in parentheses where it has not already been dealt with. Palm kernel cake or meal (1 to 4), rice meal (1 to 7), brewers' grains, wet or dry (1 to 3), clover meal (1 to 3), cocoanut cake or meal (1 to 4), meat-meal (1 to ½), biscuit meal or dust (1 to 7), and malt culms (1 to 2).

	Parts.		*Parts.*
Palm kernel meal	1	Brewers' grains	1
Rice meal	1	Rice meal	1
Bran	1	Clover meal	1
Middlings	1	Middlings	2
Fish-meal	½	Fish-meal	½

	Parts.		*Parts.*
Cocoanut cake meal	1	Biscuit dust	1
Rice meal	1	Middlings	2
Clover meal	1	Clover meal	1
Middlings	1	Malt culms	½
Meat-meal	½	Fish-meal	½

It will be found that each of these four mashes has an albuminoid ratio of about 1 in 4. If used in conjunction with the grain ration already dealt with, this will be widened. It will be as well to mention here other oilcakes and meals with their feeding values: Linseed cake (1 to 2), linseed meal (1 to 1½), soya bean meal (1 to 1), cottonseed meal and decorticated cotton cake (1 to 1), undecorticated (*i.e.*, with husks) cotton cake (1 to 1½). After the oilcakes have been soaked they can be rubbed up into the mash.

Storage.—A few words of warning are necessary to those who order foods in large quantities. Storage must be given a thought! In the case of oilcakes or the usual pig-feeding cakes and oil-meals, such must be kept under cover in a nice dry storing-place. As a rule, these particular cakes are supplied only in large quantities, but they will keep for six months or so if damp storage is avoided. With foods we are now getting, and are likely to get in the future—grains, offal or fish, &c., meals—dry storage is a *sine qua non*. When we come to grains, we are, and shall be, dealing with doubtful material, especially as regards wheat. When recovered from a torpedoed vessel, the grain after being kiln-dried is liable to "heat" if kept in bins or heaps in any quantity. A better method of storing will be to spread it out on the floor to avoid running risks. If it is possible to ascertain from the miller or the vendor the likelihood of the grain heating and also its "keeping" powers, such a plan is to be recommended.

Green Maize.—In the warm Southern Counties a crop of green maize can profitably be grown. The seeds can be sown at the end of May or early June at about 2½ bushels for an acre. The leaves and cobs (green) can be run through a mincing machine and fed raw or boiled. Another method is to strip the leaves, and after drying to chaff them into meal form. Analysis: 11.2 albumen, 10.0 carbohydrates and 0.5 fat.

Mustard and Cress.—These are beneficial for poultry stock of all ages, and supplies can be arranged all the year round. As a rule, the greenery is cut when it is short and succulent, and a sequence of small crops is usually arranged. Of the two mustard—the common white kind—is more suited to extensive cropping where the greenery is cut and fed to the fowls or the birds are allowed access to it to eat it off. The seeds can be sown broadcast or drilled; in the former case 20lb. are recommended to the acre. Mustard can be grown as a crop throughout the summer and used up to November. A good stand is obtained within a few weeks only of sowing. When cress is grown extensively, about 3lb. of seed are used to the acre. Where only a few fowls are kept, the mustard and cress can be grown in shallow boxes. Analysis of mustard: 2.8 albumen, 4.0 carbohydrates and 0.4 fat.

Brewers' Grains.—These represent a most useful ingredient of the mash, but they must be given perfectly fresh. Sour food is harmful. Wet grains should be bought in moderate quantities as needed to ensure freshness, and if this is not possible, dry grains should be used. Wet grains should be given a thorough straining prior to being mixed in the mash, and dry grains should be soaked for a number of hours prior to use.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C.2

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SUPERB PANSIES AND VIOLAS.

PRIORY BEAUTY.—This is a really magnificent Pansy, f great size and substance, free flowering and strong grower, olour dark rich blue, shaded plum, magnificent lustre and exture, now first offered by me. 6 for **2/-**; 12 for **3/6.**

VIOLA MAUVE QUEEN.—This is a delightful shade of olour; soft, refined, and extremely beautiful; plants mply a mass of blossom all the season. 12 for **2/6**; 25 or **4/6**; 50 for **8/-**; 100 for **15/-.**

VIOLAS in charming and delightful shades of colour; ixed. 12 for **1/6**; 25 for **2/9**; 50, **5/-**; 100, **9/-.**

VIOLA DAINTY DAME.—The dainty Viola, with a ainty perfume; a soft, refined, real ladies' colour. Now ffered by me for the first time. Beautiful creamy white entre, with lovely mauve border, and perfect formation; ay be justly called the Queen of all Violas. Continuous loomer from spring to late autumn. 6 for **1/6**; 12 for **2/9**; 5 for **5/-**; 100 for **17/6.**

JAPANESE TREE PÆONIES.—The Glory of Japan. Will produce 200 blossoms on one tree. Huge blossoms f magnificent lustre and texture, often 10in. to 12in. across; lorious for greenhouse, but quite hardy for outdoors. Should e planted at once, as they flower early in spring. There is a efinement more rare and a charm more fascinating about he Tree Pæonies than can be described on paper. **3/-** each; for **7/6.**

THE CRIMSON SPIRÆA.—A glorious new plant. It most superb for winter and spring decoration of the greenouse, a well-grown plant being a mass of lovely crimson lossom; but it has a further charm by being perfectly ardy, and can be planted in the open at once. 3 for **1/6**; for **2/9**; 12 for **5/-.**

CORNFLOWER.—Emperor William, rich blue, splendid ealthy plants, gems for cutting. 6 for **1/3**; 12 for **2/3.**

NEW MAMMOTH SWEET WILLIAMS "HOLBORN GLORY."—The finest strain ever seen. The size of the blossoms, delicate and lovely colouring, splendour and brilliancy, is unsurpassed; no garden complete without this lovely strain. 12, **1/9**; 24, **3/-.**

NEW PERENNIAL PHLOXES.—Those who remember the thin-petalled white and the dull-hued purple Perennial Phlox of old-fashioned gardens, can scarcely recognise these new Phloxes as the same flowers. These new varieties are in bloom from June until frost, and the individual florets are twice the size of the old-time Phlox, and the shades of colour the brightest, richest, and clearest. There are no finer or more useful perennials than the Perennial Phloxes, or which will give more complete satisfaction. All are sweet-scented, dwarf in habit, compact in truss, and have large—many of them abnormally large—flowers, some exceeding in size a five-shilling piece. 6 for **2/-**; 12 for **3/6.**

ASTER ALPINUS (the Blue Mountain Daisy).—A beautiful dwarf Alpine species, with very large, deep blue flowers; a very handsome border plant. For rockery and edging it is exceedingly beautiful; its large blue flowers are always greatly admired. 6 for **2/3**; 12 for **4/-.**

THE HARDY BLUE GERANIUMS.—This lovely hardy Geranium is rarely seen in beds or borders, yet it is absolutely a hardy perennial, and will give a wealth of glorious large blue flowers for months; increase and improve yearly. 3 for **1/6**; 6 for **2/-**; 12 for **3/6.**

PLUMBAGO LARPENTÆ.—The beautiful dwarf, hardy Plumbago from China, for rockery or edging, or borders of low-growing plants. It is a precious gem; its huge heads of lovely cobalt-blue flowers are very striking, and they finally change to a rich violet. Their will-power to continue flowering till late in autumn makes them doubly valuable. They are quite hardy, and once planted last for ages. 3 for **2/6**; 6 for **4/-**; 12 for **7/6.**

BRUGMANSIA KNIGHTII.—Produces the Sweetest and Most Delicious Fragrance of any Flower on Earth. Called also Angels' Trumpets and Wedding Bells. One of the grandest hard-wooded plants I know of, and easy to grow. It grows several feet high, and is quite bushy. The foliage is large and tropical, and its bloom—how shall I describe what words cannot picture? Imagine a little bush 3ft. high, and with 20 to 30 pendulous blooms open at once; great creamy-white blooms, 11in., 12in., or 13in. long, and 8in. wide, of a texture resembling thick, fluted satin. Imagine these creamy trumpets pouring fragrance forth till the air is heavy with sweetness. Imagine all this, then remember the blossoms last for days in perfection, and that new buds are constantly coming on. It is quite as easy to grow as a Geranium or Fuchsia, and requires the same treatment. A good plant in the garden during the summer is the talk of the neighbourhood. **Stock limited.** Strong plants, one or two years old, **5/-, 7/6, 10/6** each. Strong plants, **2/6** and **3/6** each.

OUTDOOR TOMATOES.—A wonderful outdoor Tomato; has been awarded a First-class Certificate by the Royal Horticultural Society. It has smooth, handsome fruit, of a rich flavour, and is an enormous cropper, handsome bunches of fruit at every joint. The fruit ripens fully a fortnight before any other outdoor Tomato. 12 for **2/3**; 25, **4/-**; 50, **7/6.**

CHRYSANTHEMUM MAXIMUM PEERLESS.—The new giant white hardy marguerite; large, handsome, glossy foliage; the blossoms are enormous, and often measure 5in. across, thus eclipsing all other marguerites. 6 for **1/6**; 12 for **2/6.**

CAMPANULA ISOPHYLLA.—Beautiful dwarf trailing species, with large salver-shaped flowers; splendid for suspended pots, etc., forming hanging streamers of lovely white flowers 3ft. to 4ft. long. Doubtless the queen of hanging basket plants. 3 for **1/6**; 6 for **2/9.**

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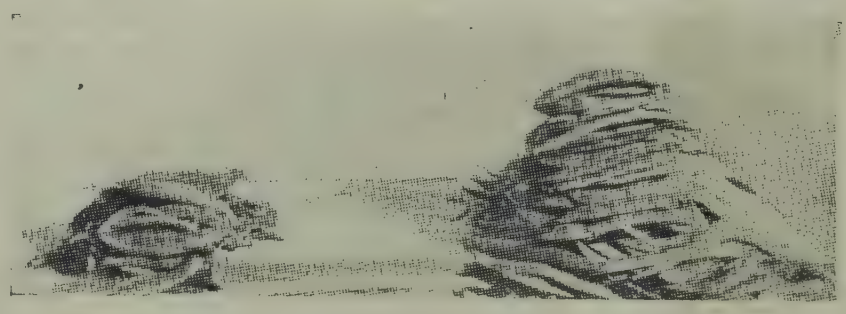

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THE GARDEN.

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NOTES OF THE WEEK

THE sunniest, hottest spot in the garden, preferably against wall or fence, where a maximum of sunlight and reflected heat is ensured, is the place the amateur who essays to grow Tomatoes in the open air should select. There he may prepare by digging a trench 1 foot wide and 1 foot deep. No manure will be required at planting-time or before; this would but aid gross growth, which is equivalent to no Tomatoes. If the soil has never grown Tomatoes before, all the better for the crop. There is nothing the Tomato appreciates more than fresh soil, albeit it may be of poor quality, which in its turn is conducive to firm, productive growth in the plant. If a crop of fruits is required, do not put out starved, under-sized plants that require a microscope to determine their whereabouts. Strong, hardily grown plants 8 inches high are better. Let them have plenty of elbow-room, say, 2 feet apart. In planting, set the plants in a trench slightly below the level of the surrounding soil, so that liquid manure or water can be profitably applied later. Above all, make the soil very firm about the plants—treading is insufficient; it should be made quite hard by ramming. With the roots in such a medium a concentrated growth is ensured and all else that is good follows in its train.

French Beans and Red Spider.—No plants that we know of are so liable to attacks of red spider when growing under glass, especially when in a warm temperature and the plants are allowed to become dry at the roots. In this way French Beans are a pest to the Grape-grower, as all too often when the Beans are grown in vineries an attack of red spider can be traced to contact with the Vines, especially if the Beans have even once been allowed to become dry at the roots. French Beans can be grown, and well grown, too, in vineries if care is taken that abundance of moisture is given the roots and the foliage is repeatedly moistened. We write this note as a precautionary measure for those who have had but little experience of the coalition of the two subjects.

Cornus controversa.—One of the most striking shrubby plants in bloom at Kew during early June this year was Cornus controversa, an Eastern member of the Dogwood family which is rather a rarity in British gardens. At one time known as C. brachypoda, this handsome species is related to C. alternifolia of North America, and the inflorescences have something of the character of those of C. macrophylla. It is a native of Japan, China and the Himalaya, where it grows 40 feet or 50 feet high. Here it is yet below 20 feet in height, but appears likely to assume the proportions of a moderate-sized tree, judging from its rapid growth. The leaves are oval, bright green above and glaucous beneath, and the creamy white flowers are borne in large, flat heads, which terminate the shoots. It is perfectly hardy, and without pruning grows into a shapely bush or small tree. The recent severe winter has not injured it, therefore it may be considered to be perfectly hardy. Ordinary soil suits it and it is easily raised from seeds.

The Manure Heap Up to Date.—There has been much written about the proper management of farmyard manure, but not quite enough possibly of the reasons for the principles advocated, seeing that great waste is so easily incurred. The fact that this often does not appeal to the eye—or to the nose—makes this a matter of more consequence. Avoidance of loss from drainage and compression are found in the recent researches at Rothamsted to be still the two cardinal points to be observed, but the harm that may be done by any undue moisture has been strikingly manifested in an unexpected manner, and, even without drainage loss, rainfall seems now to be the most active agent of waste.

Sage (Salvia officinalis).—A big old bed of this several feet across was so badly cut by the winter's frost and wind that for weeks it appeared lifeless. Now, with more congenial weather, it is studded with fresh green shoots, and has been pruned back to where these are appearing. All the same, a few cuttings will be put in later on and a new bed will be made from some of the outer branches of the old one in the course of a few days. These outer branches are usually well rooted, and form a ready and convenient method of increasing this invaluable herb. In one instance the red variety is killed outright, but as it is not so much esteemed as the grey-leaved form, it will not be replaced.

Seakale Beet.—Respecting the deterioration of Seakal Beet recorded by "Caledonia," it may be merely a case of substitution. The large-ribbed, giant-leaved form known as Seakale Beet is usually recognised on the Continent as Swiss Chard, and possibly owing to the war the crop has not been so plentiful. A few years ago a giant variety was grown named Lucullus, but the seed came from the United States of America. This variety has for a long time been in vogue across the water.

Campanula rupestris.—At the meeting of the Royal Horticultural Society on June 5 Miss Willmott exhibited well-flowered examples of this rarely seen biennial species, which gained an award of merit in 1904. It is a dwarf-growing kind, with ascending stems and hoary leaves almost hidden by the abundance of the erectly disposed pale blue bells, which are nearly white in the throat. A native of Spain and the Morea, and usually found among rocky *débris*, it is under cultivation impatient of rich soils and soil damp, and not infrequently suffers from wet in lowland countries. These avoided, it is well worthy of a trial in British gardens, or may be grown in the alpine house and planted out in early spring. Though long known to cultivation, we have never seen it so profusely flowered as on the present occasion.

THE RARE CAMPANULA RUPESTRIS.

Staking Plants.—Delphiniums are best tied separately to one central stake. For Pæonies nothing is better than ordinary Pea stakes thrust in among and around the stems. Michaelmas Daisies should have several stakes to each clump, all leaning outward; thus the main stems, of which there should not be more than eight, will have space to develop their side growths, which in the bulk of varieties are of so much importance. Bocconias should be treated in the same manner as Delphiniums where the choicer varieties are in individual small clumps.

A Beetroot Trial.—The Royal Horticultural Society is about to carry out a trial of Beetroots for late summer sowing, and Lettuces for autumn sowing. One packet of each variety for trial should reach the Director, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey (from whom the necessary entry forms may be obtained) on or before June 30.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

A Wasp Enticer.—Pyrus erythrocarpus, now blooming, exercises a peculiar fascination to queen wasps, and I have lately captured many scores in a bed of these plants. Every garden should try a few plants to serve this useful purpose. The plant is further very attractive with its glossy leafage and the striking autumnal tints. The showy black sheeny berries borne on till winter enhance the merits of this plant.—PENNICK JONES, *Delgany, County Wicklow.*

Corn Pudding and Corn Fritters.—In THE GARDEN there have been several recommendations to plant Sugar Corn (Maize), but several demur at the "American" way of eating it, and so far no one has suggested the best American way of preparing it—Corn pudding, to be served with meat as a vegetable or in place of Potatoes. One way of making it is to take twelve or more ears of Corn, cut with a sharp knife through the centre of each row, and then scrape them off the cob. To two cupfuls (one pint) of pulp one adds half a cupful of milk, a tablespoonful of butter, and some salt and pepper. This is well mixed, put into a baking dish, and baked until there is a brown crust. Corn fritters also may be made in place of Potatoes, adding to scraped Corn pulp a little butter, flour and salt, and moulding into small cakes for frying or *sauté* in butter. The best-flavoured Corn is Country Gentleman, but it is long growing; the sweetest short-season Corn is Golden Bantam.—A ROMAN READER, *Ciampino.*

Ægle sepiaria.—*Re* Mr. Arnott's note on this interesting subject in THE GARDEN for May 26, it may be of interest to note that on May 14 I saw this shrub in full bloom in Mr. E. C. Buxton's beautiful garden at Bettws-y-Coed. Though planted ten years ago, Mr. Buxton tells me it has never flowered before this year. The hard winter seems to have had a beneficial effect on many subjects. Genista hispanica is finer than it has been for years, though so brown a month ago. Choisya ternata has never had such a wealth of blossom. Roses are looking remarkably well, especially the ramblers, and Rosa Hugonis promises to be covered with blooms. The Berberises also have been laden with bloom of quite exceptional size and beauty—all but B. Darwinii, which was not so fine as usual.—A. T. JOHNSON, *North Wales.*

A Visit to a Corsican Garden.—The amiable and progressive Director, M. Pierre Geyer, of the Etablissement horticole de l'Oleno, near Ajaccio, Corsica, had repeatedly invited me to come and see his latest creations and seedling selections of new garden plants, and especially Freesias and Roses. A beautiful May afternoon—we have not had many this season even in this favourite climate—I went up the hill, and let me say at once that my visit was a very interesting one in a horticultural sense. I will not mention the fields of multicoloured Freesia seedlings—in all the colours of the rainbow—but limit myself to his principal creation: a Hybrid Tea Rose, in full flower, a seedling of three years, planted against a north wall, with well over a hundred buds and flowers. It is a climbing, strong-growing plant, sending up six to ten strong shoots during the season 3 mètres to 3½ mètres long, with numerous well-characterised thorns. The whole plant reminds one much of that splendid climber Conrad Ferdinand Meyer. The foliage is dark and of a leathery consistence, immune against mildew, and like the leaves of the Pernetianas, though M. Geyer assures me that the parentage is not in that direction. He says it dislikes pruning—like all climbers, which require only the three year old wood to be taken out to grow well—though this need not be a general rule, as I have a Turner's Crimson Rambler grafted on a Yellow Banksian, eleven years old, which I never prune beyond the old flower-stems, and which is huge in size, covering nearly the whole of my house, 16 yards by 10 yards, sending up each year young shoots from the bottom and also from the old wood above. M. Geye's Rose produces on each shoot, 1½ feet to 2 feet long, only one flower—never three or five buds—carried upright. Even the power of our strong sun does not droop the stem near the bud, as with so many Roses, even the great favourite Mme. Edouard Herriot! It should be extremely valuable as a cutting Rose for decorations. Paquin, the dressmaker, should hail the advent of this Rose with particular delight, when all shades of mauve are the fashionable colours for feminine wear, nearly everybody being in mourning owing to the war. The form of the bud before expanding and when fully out is like Mrs. W. J. Grant, or, as Americans call her, Belle Siebrecht, only larger and fuller in body, the colour of a bright red, with a dash of slaty blue on the outer petals when fully open. A further quality is its beautiful Tea scent. I consider it a most appreciated addition to our already very long list of Roses, and particularly so at the present time. It makes very little demand on treatment, evidently, as it grew in very poor and hard soil facing north. It will do well as a pillar, on a wall or ugly hillside, and is invaluable as far as cutting from is concerned.—W. STRASSER-EUSTE, *Maria Stella le Châtel, Ajaccio, Corsica.*

Saxifraga granulata.—A Saxifrage that will do in any position, wet or dry, sun or shade, even in the woodland, is deserving of attention. Such is our native S. granulata, which thrives anywhere, flowers abundantly, and is withal one of the loveliest of its race. It sends up tall and erect stems of wide-rayed, pure white flowers of great beauty from its rich green foliage. There is also a double variety, but though the blooms of this may last longer, it is in every way less satisfactory than the type. One sometimes sees S. granulata presuming to be represented by a much smaller and altogether poorer plant than the genuine thing. Whether this is S. cernua I do not know. Probably it is, but, once seen, the true S. granulata will not be forgotten. No plant is more easy to propagate, for its root-stock is a bundle of tiny bulbs, which set root freely about the parent plant.—A. T. J.

Cutting Back Hardy Plants.—I am interested in the note by "G. J.," page 196 of THE GARDEN, on this subject. It must be twenty-five or thirty years since I first wrote in a contemporary on "Dwarfing Herbaceous Plants," and which, if I remember rightly, the late Rev. C. Wolley-Dod did not quite approve of. Whether I was the originator of the idea I do not know, but it came to me more by accident than design. Having occasion in June to move a big bed of Pyrethrum uliginosum, and knowing how it would suffer if left its full length, I cut the stems down to within 9 inches of their bases when replanting. To my surprise the plants broke quite freely again and flowered much about their usual time at a little more than half their usual height. In that fact I saw an increased sphere of usefulness for many of the taller herbaceous plants in small gardens, from which they had hitherto been excluded by height alone. Mr. Wolley-Dod had, however, viewed the idea from the belittling standpoint alone, not extending it to the much wider field to which it might be applied. For example, for the taller Michaelmas Daisies and others akin, on the dwarfing plan there is room not only in the small garden, but in spacious beds on the lawn, where the fully grown plants which would also require much staking would be out of place; while the introduction of a much-needed colour mass in the near foreground of a big herbaceous border—impossible otherwise—is rendered easy by the same process. It is not an attempt to belittle the noblest herbaceous plants, but rather to make a greater use of them than before. "G. J." rightly says these dwarfer plants are "sturdier and stronger"; in short, they are self-supporting. As already pointed out by "G. J.," the method is not applicable to all plants alike, though among the Michaelmas Daisies there is ample scope for experiment. Sunflowers and Heleniums also respond to it. Formerly a like method was adopted for dwarfing Chrysanthemums, the plants so treated producing excellent heads of bloom.—E. H. JENKINS.

Rhubarb Leaves.—References in your last issue afford me an opportunity to correct some wrong impressions in the minds of your correspondents. May I state in the first place that so far as a small quantity of oxalic acid may be present—to neutralise this with soda will make it no less poisonous—also it makes not the slightest difference in any way whether washing soda or bicarbonate of soda is used, because by the simple act of boiling the milder bicarbonate is at once converted into carbonate or ordinary washing soda, this being so, our cooks may continue to use either without distinction.—JOHN WHITFIELD, F.C.S.

Paul's Scarlet Thorn.—With all its beauty this form of the Double Scarlet Thorn is not so graceful in its habit as some of the others. It has, however, been flowering well this season, and is a picture with its branches wreathed with clusters of the bright flowers.

The Earliest Roses.—With me the earliest Rose was Rosa altaica, followed a day or two after by R. alpina. R. Hugonis is a little later. A great deal depends on position, however, as my first plant of R. altaica to bloom was not near either R. alpina or R. Hugonis. Side by side with R. alpina in another part of the garden, R. altaica was a day or two sooner, so that, I think, settles the matter in this garden for this year. Hitherto R. altaica has always been the first here, and is greatly admired. Plants vary a little in size and shape of flower, and I have what appear to be three types of this charming white Rose.—S. ARNOTT.

Long-Stemmed Roses for Cutting.—An enquiry was recently made for the names of Roses that can be cut with long stems. The warm white-bloomed Mme. Alfred Carrière may be recommended, for on a well-established bush it is easy to cut flowers on stems from 2 feet to 3 feet long. That most sweet and charming Rose Zephyrine Drouhin also furnishes an abundance of long-stemmed bloom, especially in the later part of the season, when the flowers are at their best. It is a vigorous grower and does not need hard pruning. It is a good plan to grow it as a hedge with access on both sides. The rose red blooms are not only deliciously sweet, but they are well shaped and long lasting, and the almost entire absence of prickles makes it a pleasant Rose to cut by the armful.—G. J.

Effects of the Frost on a Surrey Hill.—Your readers may be interested to hear how my small flower garden on the Surrey hills, 570 feet above sea-level, has been affected by the severe frost of last winter. I did not mat up any plants, but put sand and cinders round the crowns of the specially tender ones. Out of nearly a hundred Roses I have lost only about eight, and many herbaceous and rock garden plants, though much damaged, have survived and are putting out shoots from the base. I have lost two Arbutus

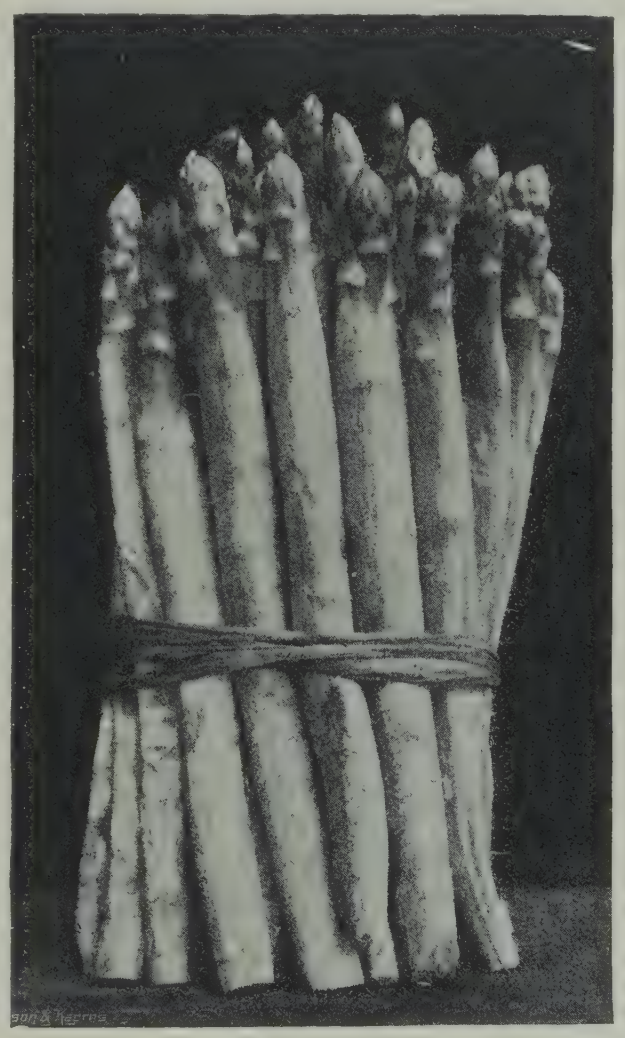
trees, a Cistus crispus, two or three plants of the handsome yellow Linum arboreum, and a Genista purgans. Buddleias globosa and variabilis are alive, and so are Ceanothuses Veitchii and Gloire de Versailles, though all these four plants appeared quite dead two months ago. My Menziesias (Irish Heaths) and Helianthemums have been badly nipped, and will have little or no blossom this year. Choisya ternata, in a very sheltered corner of the house, has survived and is blooming abundantly; but two plants of Aloysia citriodora in the same situation, which have survived many winters, are, I think, quite dead.—M. J. T.

Turnips Eaten Cold.—I am aware that it is a tall order to differ from your regular and versatile correspondent "Anne Amateur," but when she states on page 196 of your issue of the 2nd inst. that "Beetroot can be used hot or cold, which is not the case with Turnips," I beg to say I differ. A favourite salad dish of mine is a cold Turnip, young and tender, of the Snowball variety, thinly sliced, and with a dash of salad dressing. My taste may be peculiar, but with cold meat I find this dish refreshing and delicious, and if "Anne Amateur" has not yet tried it, I trust she will grant me the favour of doing so.—F. HERBERT CHAPMAN.

Cabbage for Late Use.—A writer in THE GARDEN some time ago suggested sowing Cabbage seed in drills where the plants were to remain and grow to maturity, instead of transplanting them in the way we have always done, and the Editor asked what would be gained by the change. So far no one has answered, and I thought perhaps readers might be interested to know that if Cabbage seed is sown at once in the drills, the plants are not so ready to burst open and go to waste at maturity. Therefore it might be worth while trying with some of those intended for early winter use. The writer learned of this from a neighbour outside the profession, and for the past four years a row has been sown about May 10 for late use. The Cabbages have kept up the supply to the end of the following January, which is quite a consideration on this west coast of Vancouver Island, where we have much rain and mild weather in the autumn.—GEORGE FRASER, *Uchulet, B.C., Canada.*

Potatoes and Sweet Corn.—I have been much interested in your notes on Potatoes and American Sweet Corn, and as our process of planting seems to differ a little from yours in England, I take the liberty of sending you the little booklet which this club—the Shedowa Garden Club, Garden City, Long Island—has been distributing free to help on with the food supply if possible. We always cut up our Potatoes for seed. Each piece should contain two "eyes" to allow for the failure of one to sprout. Several of our neighbours have raised good but small Potatoes from parings, planting the scraps that had eyes in them. This is worth trying. I was interested in the advice given by one of your correspondents to rub the seed pieces with lime. We hesitated a long time before putting in the note about the mixture of lime and fertiliser, as most of our local experts claim that lime is apt to make the Potatoes scabby, and finally compromised by putting it in, advised as an experiment only, as one experienced farmer said a little lime was good for the soil and might not hurt the Potatoes! As to the Sweet Corn, which I have marked in the booklet, I saw a paragraph in a recent issue in which your correspondent asked about its food value. We consider it the most delicious of vegetables, but it takes up a good deal of room and is rather indigestible. It is eaten green, you see (it is often called Green Corn); the ears are pulled as soon as the silk [illegible] and then we husk it and boil the whole cob and chew it off in a manner highly offensive to our British friends (having plenteously buttered it first), or we score each row of kernels with a knife, cut or scrape it from the cob, and stew it with butter, pepper, salt and a little milk.—(Miss) MARY YOUNGS (Secretary).

The Cabbage Patch in a Small Garden.—Mr. Beckett's remark about Cabbage growing is a "counsel of perfection" practically unattainable in a small garden, where literally every foot of space has to be constantly utilised. Doubtless, as he says, a succession of fresh Cabbage-beds would be better, if one had space for them. It would be a very great pleasure to me to visit Mr. Beckett's gardens one of these days "after the war," and especially to see his Michaelmas Daisies. We amateur gardeners owe him a deep debt of gratitude for the many lovely varieties which now enrich our borders. Personally, I think modern Michaelmas Daisies are *the* greatest addition that has been made to the hardy flower



A HOME-GROWN BUNDLE OF GIANT ASPARAGUS.

garden in the fifty years of my amateur flower growing, albeit not forgetting thanks due to the Rev. W. Wilks for Shirley Poppies, which are a more "fleeting joy." These two are gains to set against the loss of scent in the newer Roses (a loss being repaired now that Rose growers have been brought to a sense of the error of their ways) and of my loved and lamented shapely, short and sweet Peas—now, alas! lost for ever, I fear—though I hope the gawky giant, grotesque deformities which have usurped their place may in time cease to disfigure our gardens. I note their popularity seems on the wane. *A propos*, what *do* you think? I have a real old-time *fragrant* Musk once more—a chance plant under the kitchen window. Imagine my joy!—ANNE AMATEUR.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

ON MAINTAINING AN ASPARAGUS BED

BY J. T. BENNETT-POE, M.A., V.M.H.

AT this period of the Asparagus season a few hints on keeping the bed in vigorous health and in a profitable state may be of use to the amateur, for whom alone these notes are intended—not for the market-grower. From Mr. Woodall, whose interesting articles in THE GARDEN, written from his villa at Nice, are so well known, I learned a method of treatment he had carried out with success in Yorkshire. The general practice is to continue to cut the stems as long as a good dish can be got to send into the kitchen. This can only be done at the cost of the vigour and crop for cutting in future years. Twenty-three years ago I made an Asparagus bed, and I have carried out rigorously the simple treatment, which is so effective that the crop obtained this year is as fine and plentiful as in any year since the bed was made. When the danger of severe frost is over, the strongest stems from each plant are selected and staked, tying them to slender Bamboo canes or tarred cord stretched from en to end of the bed. Then from that time onwards *all other growths* are cut away. The small late growths come in useful for putting into soup or omelets. By doing this all the strength of the plants is given to maturing strong crowns, which produce the crop of the following year. It is important the stems should not get broken off before the growth is completed. As this note refers to the *cutting* of Asparagus, I do not think it necessary to allude to the winter dressing of seaweed or other material. A well-known nurseryman who now and then pays me a visit remarked recently on my Asparagus bed how well this method of treatment worked and in what good condition the bed was after so many years of cutting. If anyone thinks it worth while to try this treatment, he will be surprised at the result, and find a marked difference in the growth of this the choicest of vegetables.

GOOD FRUIT CROPS POSSIBLE EVERY YEAR

IN spite of a very common belief, it is certain that the bearing capacity of fruit trees is not limited to every other year. Ninety-nine orchardists out of every hundred in England assert that a good crop is followed by a thin one, and *vice versa*, but the regularity with which excellent returns are obtained annually from espalier trees and trees under glass, which receive different treatment from that meted out to orchard trees, ought to suggest some scepticism about the old tradition. In the cases mentioned, it is possible to rely on good crops every year. Among the reasons which explain this more regular bearing, manure takes a first place. Without it the abundant crop of one year makes so great a demand upon food that the reserves of the trees are exhausted and are not strong enough to feed a new crop the next year. Hence a poor return follows a good return. In the year following the bumper crop the trees often carry no fruit at all, but they accumulate new reserves and are then ready to feed a large crop the next year. When the exhaustion of the trees is prevented by appropriate manuring, bearing takes place much more regularly.

In manuring fruit trees it is necessary to bear in mind that the blossom buds are formed the year before they come out—that is to say, during the period of bearing or shortly afterwards—consequently they are forming at a time when the trees are being exhausted or have been exhausted. Therefore a liberal supply of easily assimilated manure must be placed at their disposal during this period. Liquid manure, wood-ashes, basic slag and lime should be used, taking into account that a superabundant supply of nitrogen might lead to a production of wood instead of flower buds, and that phosphates assist largely in developing the flavour of the fruit. H. VENDELMANS

DRYING THE FRUIT CROP

By WILLIAM W. BULL.

THE promise of a crop of nearly every kind of fruit this year is abundant; but the supply of sugar being so limited, the question exercising the minds of growers and housewives is as to how those kinds which need its addition are to be utilised.

For keeping varieties of Apples and Pears, early preparation should be made for storage. There will be a glut of those varieties that will not keep, especially if high winds prevail. Of these, the sweetest varieties will, of course, be of most value. The juice of these, pressed out in a cider press and boiled in a little gelatine, may be bottled and kept to add to pies, &c., during the winter. The same applies to Pears.

Plums, however, cannot be stored for any length of time, and must be artificially preserved in some way, or wasted. What means of preserving stone fruits are open to the ordinary grower other than making them into jam? Most housewives are familiar, and some very successful, with the bottling process, for which outfits may be purchased at a small cost. But the widest opening is to be found in the drying process.

It may interest some readers of THE GARDEN to hear the result of my own experiments in this line. In 1890 I owned and occupied some orchards where about 100 varieties of Apples, 40 of Pears, and 60 of Plums grew. It happened, of course, that in some years I had a crop in excess of my customers' demands.

A storehouse enabled me to make the best of my Apples and Pears, and to put them on the market as late as possible; but Plums, in plentiful seasons, were a difficult matter. In one year Green Gages were hawked round our local market and found slow sale at 4d. *per peck*, while inferior Plums were unsaleable. I then determined to attempt drying Plums for winter use. Several evaporators were in the market; but I made my own.

It consisted of a cabinet 6 feet long, 2 feet wide, and 4 feet high (internal measurements), one side opening outward as folding doors. It was made of deal and lined with tinned steel sheets. Ledges along the sides supported trays, in seven rows, made of perforated tinned steel, holding altogether from five to seven bushels in single layers.

The quantity, of course, varied according to the size of the Plums to be treated. The top or lid of the cabinet could be raised or lowered by a cord and pulley as required to regulate the current of hot air and allow the escape of steam.

The cabinet was set over a pit of the same area, up which came the hot air. From end to end of this pit, 12 inches below the lowest tray, ran two layers of old engine tubes, one end coming through the brickwork from the furnace, and the other end bricked into the chimney, the heat from the furnace thus passing through them. They were easily swept with a flue brush on a rod. The furnace was like a small oven with an ordinary grating at the bottom. Into this I could throw a big log or stump of wood, which kept burning at night. The cold air was admitted under the tubes and passed upward through the narrow spaces between them, thus gaining its heat.

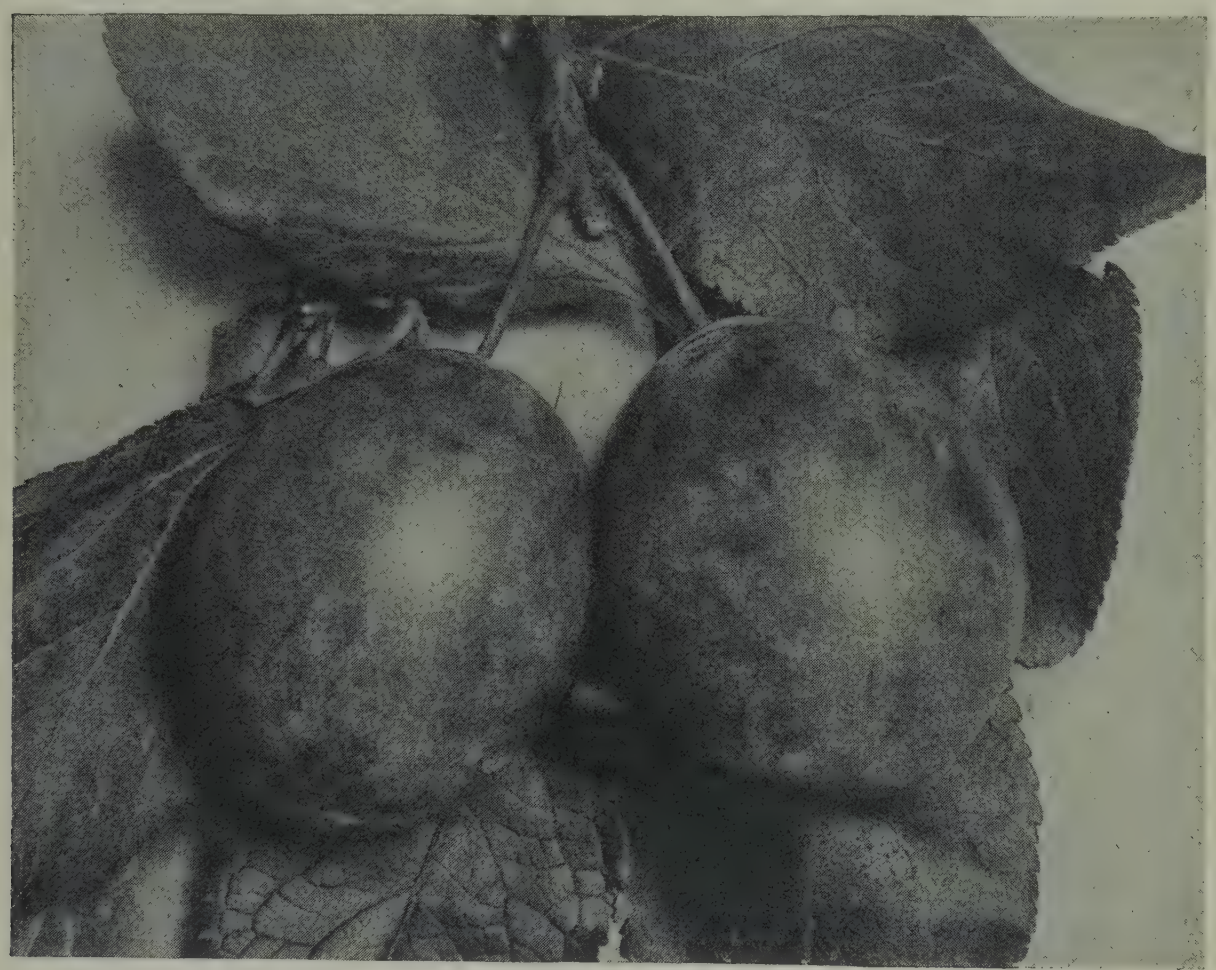
Each two trays on a ledge left a space of 4 inches at one end, and, being arranged alternately, caused the hot air to take a zig-zag course, first to right and then to left, between two layers or trays of Plums. I found the best fuel was breeze, or rough turf, cut and dried in the summer and stacked, Irish fashion. In this primitive way many bushels of Plums were converted into Prunes, and served my family, my friends and customers with fruit for winter stewing.

When dried I packed them in railway boxes, lined with paper, but had not the excellent waxed paper now used by grocers. Prunes selling in grocery stores were inferior in flavour to those I made at home. I found a great difference in the drying qualities of different varieties, the old Mussel Plum yielding most readily to treatment and making Prunes of the richest flavour if taken when *just* ripe, but *quite* ripe. Next came Prince Englebert and Curlew. I could never dry Rivers' Early and get it to keep. I was very much handicapped, having the care of farms and houses as my daily business, and left the apparatus to a boy.

Once started, a farmer's wife could attend to it much better than I could. But in one season I had some leisure and tried drying some better varieties for dessert. Grand Duke and Purple Gage responded well to my efforts. Packed in fancy boxes they kept well, and were pronounced quite equal to the best Bosnian and American fruits. Dried Pippins and Apple rings were quite easy to make; and one tin of rings made in 1895 has just been found and opened, and are still quite good.

The best results of all I obtained from Pears. In one season the crop was so plentiful that I could only obtain 2s. per bushel for fine fruits of Williams' Bon Chrétien. I therefore set a woman peeling and dividing them into six parts, and they dried most easily, resembling, when fit to store, pieces of thick Basil leather. Stewed in winter they made a delicious dish. In one wet season Plums were abundant—not worth a penny per pound—and I had windfall Mussel Plums gathered up and *rinsed*, putting all but the worst cracked ones into the dryer *dripping wet*, and these kept remarkably well and made 5d. per lb. Were I starting again, I would construct the furnace in the same way, but would not spend one-third as much upon the cabinet and trays. I would make them of Willow or Poplar. Deal would not do; it would impart a turpentine flavour.

Next to a storing room, I consider an evaporator a requisite for every grower of fruit if Plums are included in his crop. Why not a co-operative evaporator?



DESSERT PLUM COE'S GOLDEN DROP.

PLUM COE'S GOLDEN DROP

THIS excellent dessert Plum is grown under various names, and in the Eastern Counties I have frequently seen it grown and sold under the names of Bury Seedling and Coe's Imperial. It was raised by a Mr. Coe at Bury St. Edmunds a hundred years or more ago, and is still one of our best late dessert Plums. In many gardens it is not robust enough for a standard, though on the South Coast in a warm soil I have seen it bearing splendid crops grown on a short stem. The fruits hang on the trees when other kinds are past. However, such a splendid fruit is well deserving of a wall, and, with ample room, it gives a good return. This Plum is not ripe, even in the South, till well on in September, and in the North it is an easy matter—by gathering late and storing in a cool place, each fruit being placed singly in tissue paper and laid in single layers in a drawer—to keep them good till the new year.

Of late years this variety has found much favour as a pot tree; it fruits in a very small state, and the crops hang well. I grew this variety on a back wall of a cold house and got a splendid return, as with glass protection it never failed us. In a warm garden it makes a nice pyramid when grown in this way. The trees at times suffer when in blossom, so that, if possible, a sheltered position should be chosen, the soil well drained and the roots not too deeply planted, so that rich surface food may be given. W.

Sugar for Making Jam with Home-grown Fruit.—I have sent in my application for sugar for home jam making, but cannot resist remarking that home growers of fruit seem to be expected to possess a gift of prophecy as regards the amount of fruit and kind of each that will be available, for we are required to state before June 11 the quantity we shall need for "soft fruit" and for "stone fruit" (which, as Euclid would say, is absurd). I have only applied for 100lb., though I usually want more in good seasons, hoping to have honey later on. One of my hives has already some 12lb. of Apple blossom honey, and the white Clover on which I chiefly rely is not out yet.—ANNE AMATEUR.

THINNING RASPBERRY CANES

TO grow Raspberries satisfactorily it is very necessary to thoroughly understand the character of their growth, and the beginner who desires to succeed should apply himself to acquire the knowledge that must inevitably lead to success. I am not concerned in the present instance so much with the matter of general culture; it is the aim of the present notes to make known the way in which the thinning of the growths is carried into effect. The beginner should understand, however, that to grow the Raspberry well, deep culture is of the highest importance. The quarters also should be well manured previous to the planting of new canes, as deep digging afterwards is out of the question, owing to the surface-rooting character of this much-prized subject making this operation prohibitive. The Raspberry prefers a somewhat moist situation, and few hardy fruits of our garden respond in more liberal manner when treated to copious applications of water and manure-water.

We have now arrived at that period of the early summer when the work of thinning out the growths should be done. In many gardens the Raspberry is sadly neglected, and yet I question whether any other hardy fruit yields so satisfactory and heavy a crop as does this subject. The beginner, through ignorance, no doubt, is disposed to allow far too many growths to develop, and in consequence of this indiscretion the canes, as a whole, are less strong than they should be; the yield of fruits also is less than it might be, and they are poor in quality. Assuming the plantation or Raspberry quarters were mulched with well-decayed manure, the plants should evolve growths of a robust kind, and in well-prepared soil they should develop freely. If too many shoots spring up—and this seems to be almost inevitable—their number must be reduced. That the beginner may quite understand what these few notes are intended to teach him, he should proceed to inspect his Raspberry canes forthwith. A careful inspection will reveal the fact that the growths that were made last year are the canes that are developing their fruits now, and the young growths in various stages of development that are more or less crowded at the base of each plant are the canes that are to yield fruits next season, and these, therefore, need every care to ensure their proper development. In order to teach the novice what the thinning of Raspberry canes really means, in Fig. 1 is shown a specimen plant that was photographed in the garden of an amateur who knows little of how to deal with this subject. The reader will observe that there are numerous growths—far too many for the plant to develop satisfactorily. Not only are the new shoots numerous, but they are poor and weakly, and fail to give any indication of promise for another year. The beginner should remember that these unduly numerous shoots are all drawing on the resources of the soil and robbing the fruit-bearing canes of the vigorous flow of sap which they need to develop their fruits satisfactorily. This overcrowding of young growths is, indeed, very detrimental to the best interests of the plants, and should be remedied at the earliest possible moment. All weak and useless growths should be removed at this period. Retain on plants grown on trellises any number between three and five growths, varying the number according to the strength and character of the canes. When the plants are grown in individual clumps, retain some five to six stout canes, this number being quite sufficient for a strong plant. Fig. 2 shows a plant where weak and superfluous growths have been removed, and where a few strong canes have been retained for next year's fruiting. Under no circumstances cut out any growths that are now about to bear fruits; it is only the weakly and crowded growths of recent development that should be removed. C.

1.—OVERCROWDED CANES BEFORE THINNING.

2.—AFTER THINNING.

BEANS

TOUCHING on the question of stringiness, would it not be an advantage to drop growing varieties that have this tendency? Mrs. C. W. Earle advocates picking very young, presumably half-grown or less, but for the average gardener or allotment holder this means a serious curtailment of the crop. As is pointed out, Beans are natives of the New World, and it may therefore be taken for granted that Americans know something about Beans, especially as their climate enables them to grow forms that are too tender for this country. I have grown several American varieties in past years, and from an eating point of view can certainly state that many of them are infinitely better than the average sorts we grow over here. Stringlessness and meatiness have been the American aim all the time; while the development of white-seeded sorts, which are so useful for shelling dry, has also been carried out. These white-seeded sorts are infinitely superior to the average sample of small Haricot as sold by the grocer. Incidentally, size is no criterion, and there are few who will agree that big Beans must necessarily be tough. It is a question of variety and culture. Some people argue that the Dwarf Bean is inferior to the Runner, but this is largely due to ignorance, for the average person believes that nothing better than Canadian Wonder exists.

The writer of the recent notes on Beans erroneously uses the term "Butter Bean" in connection with the golden-podded Wax Bean. To the housewife the Butter Bean is the large, flat, white Bean sold by grocers, and it is the name applied to the Siena or Lima Beans which are grown in such vast quantities in the more southerly districts of America. The Lima, by the way, has never succeeded with me although I have made many attempts. The commercial Haricot Bean is not of the Lima type, for it is largely grown on the Continent. The large Haricot as sold is, I believe, the so-called Potato Lima, and, as in the flat kind, can be obtained in two types, viz., dwarf and climbing. The flat-seeded Limas, as stated, are the so-called Butter Beans. Both these and the

Potato Limas, which are round-seeded, are used as shelled green Beans and dry.

The Wax Bean is grouped in the so-called Snap class, as the best varieties are totally stringless, and for cooking are merely broken, not sliced.

The green forms, such as Lazy Wife among climbers and White Wax among dwarfs, are extra useful because of their white seeds; but, after all, colour counts for little, as some of the coloured seeded sorts are superior as dry Beans to the white forms. T. A. W.

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATE.

Robinia Kelseyi.—This delightful flowering tree gained an award of merit when shown in June, 1910, and has now been promoted to the higher award above named. It is without doubt one of the most ornamental of its class, trees now laden with the rose and white Pea-shaped flowers being a fine feature in the garden. It is good either in bush form or as a standard. From Mr. J. C. Allgrove, Langley, Slough.

AWARDS OF MERIT.

Deutzia Vilmorinii.—A free-flowering hybrid producing long sprays of pure white flowers, the latter freely borne in axillary clusters. From Mr. J. C. Allgrove, Slough.

Magnolia Watsonii.—The flowers of this magnificent species are 5 inches or 6 inches across, creamy white, and strongly perfumed. It is one of the most handsome of its class. Shown by Mr. J. C. Allgrove, Slough, and by Mr. G. Reuthe, Keston.

Iris sibirica Perry's Blue.—A variety of outstanding colour and distinction, which, together with its much larger flowers, renders it of great value. Shown by Mr. Amos Perry, Enfield, Middlesex.

Iris Ringdove.—This resulted from a pallida cross. The standards are rosy mauve, with deeper-coloured falls. It is handsome and free, and a good garden plant withal. From Messrs. R. W. Wallace and Co., Colchester.

Lilac Ellen Willmott.—The latest and probably the best of the double white flowered class, a worthy climax to a group of flowering shrubs of no mean importance. From Messrs. George Paul and Son, The Old Nurseries, Cheshunt.

Carnation Maldron Drummond.—This belongs to the Perpetual-flowering class. The colour is pink, the variety sweetly scented. From Captain Maldron Drummond, Cadland Park, Southampton (gardener, Mr. Smith).

Antirrhinum Prima Donna.—One of the "medium" section, the salmon and maize coloured flowers constituting a very charming combination. Shown by Messrs. Dobbie and Co., Edinburgh.

Miltonia vexillaria Sir Mervyn Buller.—A very handsome variety with flowers 4½ inches across. The dominant shade is pink, a butterfly-like mask of crimson velvet marking the centre. A most attractive variety. Exhibited by Messrs. Armstrong and Brown, Tunbridge Wells.

The foregoing novelties were exhibited before the Royal Horticultural Society on June 5, when the awards were made.

LILAC ELLEN WILLMOTT.

DEUTZIA VILMORINII.

FLOWER GARDEN NOTES

By Mrs. C. W. Earle.

I WONDER if it would amuse your readers to hear a few of my successful personal experiences in this sandy, unsatisfactory soil. In old days I had lots of manure from horses, cows, and pigs, which I used freely, and the ground responded and lost its sandy character. Now I have only two pigs, and the collected leaves, which cannot be used for at least a year. Christmas Roses I have struggled with for years very unsuccessfully.

Crown Imperials, the yellow and the red orange ones, are such beautiful March flowers that one wonders so few gardens seem to have them; and yet in cottage gardens they grow with no care. I think the explanation is that the herbaceous beds are forked over in the autumn, and if the roots of Crown Imperials are disturbed then, they die in the winter. The only time they can be moved is at the end of June; that never kills them. On the contrary, if they are moved every third or fourth year they are all the better for it. A mulch in the winter when they are coming through the ground does them good. They are well worth growing, if only to turn up the flower and look at their tear in the green or black cup. My plants are so admired at the end of March, a sure sign they are not often grown.

For years Lilies of the Valley defeated me, though grown on the east side of a wall and good German (!) plants. They are best replanted every third or fourth autumn, some of them at any rate; but the real secret of success is weeding them at the end of February and covering the surface with loam, leaf-mould, and a few cinders, and then in wet weather stamping them down as hard and close as possible. It is simply surprising the difference this makes. Like many other operations in gardening, it all depends on doing things just at the right moment, in this case before the plant starts its growth. In a very dry spring a good soaking of water when well through the ground does them good.

Lilacs want a judicious pruning after flowering and the seeds to be cut off. This is often not done in small gardens, where it is most wanted. If Lilacs are snipped all over instead of being thinned out they will not flower the following year. The two Lilacs that do best in this garden are Charles X. and Marie Legraye. I use the old familiar name of Lilac, but I ought to say Syringa. The old Syringa of my day (Mock Orange) is called Philadelphus. The new kinds are very beautiful, but I am not sure they are as sweet-scented as the original plant of my youth. Philadelphus grandiflorus is the handsomest variety, and also wants careful pruning. I have lost all my large old plants of Sweet Verbena (Aloysia). They have lived out of doors for years, and sometimes even the tops did not die. But they require, even in mild winters, a good heap of ashes round their roots early in November, and this was forgotten last autumn by my young gardener and myself, and the winter was unusually long and severe. I saw in Hertfordshire this spring the most splendid branches, yards long, of the Glory Pea of Australia covered with its beautiful red flowers like a claw or a parrot's beak. It had come through the winter in a house with no heat at all. It seems to me that everyone with a good-sized greenhouse ought to grow it, and I am told the seed can be bought now in England or could come direct from Australia.

I was years patiently trying to get the Scotch scarlet Tropæolum to grow here; the best time to plant it is April. I got cuttings from Scotland, and now it takes care of itself and comes up every year through a Holly hedge shaded by a house close by. It does not like full sun. The cuttings are easily moved in spring. It is a help never to

pull off the dead growths in the winter. All in the South seem to depend on situation. A friend arrived the other day with a fascinating bunch of a shrub with small Privet-shaped leaves and a number of waxy coloured flowers. It turned out to be the Sacred Aniseed of China and Japan, and again has proved hardy in the heavy soil of Hertfordshire. Its name is Illicium religiosus. I am told it is in the *Botanical Magazine*, Plate 3965, but this is just beyond where my second series of the *Botanical Magazine* ends. I am trying hard to make some cuttings grow. Getting plants to grow out of the common is my chief interest in gardening, especially now that weeds reign triumphant in most flower gardens; and if there is a gardener he says, "Most people now are growing nothing but vegetables."

THE ALLOTMENT WEEK BY WEEK

By A. Cecil Bartlett.

THE early Potatoes now require earthing, and this work is best done while the soil is moist. In a natural state the Potato produces its new tubers just on the surface, where they soon become green and hard and, while excellent for reproductive purposes, quite unfit for human food. So to obtain wholesome tubers it becomes necessary to draw the soil up around the stalks sufficiently high to completely cover the young tubers which are produced thereon, and this earthing up, by keeping the tubers moist, also increases the yield.

In general the tuber-bearing part of the Potato stalk is fairly fixed and definite, and no advantage is gained by abnormally high ridging. The tuber bearing part of the stalk commences at 4 inches or 5 inches above the seed and continues upwards for 6 inches or 7 inches, and it is within these limits that the new Potatoes are, in the great majority of cases, produced; though I have seen Potato haulm—notably of the variety Myatt's Prolific Ashleaf—studded with tubers at every leaf-joint, but this is very exceptional.

The manner of earthing also requires consideration. There is a choice of two methods. The advocates of what may be termed the straight-side earthing—by which the soil is drawn up steep like the roof of a house—contend that this method effectually prevents the spores of the Potato disease which fall from the foliage from penetrating the soil and infecting the tubers there, as the steep sides make them roll to the lower level where there are no tubers to infect. Against this theory we have the pronouncement of the late Mr. G. Massee, the eminent fungologist, that the disease spores which fall from the leaves cannot and do not infect the tubers, so that the transmission of disease need not be considered; and when, in addition, it is obvious that if the ridges are steep enough for the alleged purpose they also direct all rains that fall to the bottom of the trenches instead of allowing them to moisten the soil and nourish the young Potatoes, the advantages of a rounded form of earthing are obvious. Many old growers firmly believe in the value of placing a spadeful of soil in the middle of each plant, spreading out the stems before drawing up the soil.

Before proceeding with the earthing, the worker should consider the manure question. If the growth is strong and robust, it may safely be taken as a sign that the soil is sufficiently fertile and no stimulant is needed. But if, on the other hand, the Potato haulm is a trifle pale in colour and thin, it will be an advantage to assist the plants in some manner. Where it can be obtained cheaply, a dressing, sufficiently thick to hide the soil, of horse-manure and road-scrapings which have been collected and turned over several times, spread alongside the rows, would be an admirable help. Fowl-manure, used much more sparingly, is also good.

If neither of these natural manures are available, recourse may be had to chemicals, and the most convenient form to use them is as a Potato manure mixed by a reputable firm, for this will be almost as cheap as buying the ingredients separately and will probably contain a proportion of potash, which cannot now be purchased in small quantities, and will be as complete a fertiliser as possible.

If we get a continuance of this fine June weather, it should be a good year for outdoor Tomatoes, and in any case it would be well worth while planting a dozen or so, for even if the fruits do not ripen, the green Tomatoes are excellent for chutney and other preserves. Plants in 3-inch pots are the best to set out, and a sunny position, well sheltered from cold winds, should be chosen. If it is available, a good place is on the sunny side of the Scarlet Runner Beans, for these are a splendid

IRIS RINGDOVE.

wind-break. Of an excellent plan is to set up a row of sheep-hurdles running from east to west, and to plant the Tomatoes close against them on the south side. If the soil is a "strong soil" and the vegetables already up are growing vigorously, it would be a good plan to plant the Tomatoes pots and all, burying the rims of the pots 2 inches deep. This will restrain the vigour of the plants and tend to make them more fruitful. The Tomato has a passion for making luxuriant leafage at the expense of fruit production, so the planting should be done firmly and only sufficient water applied to keep the plants healthy and growing.

The plants should be set from 1 foot 6 inches to 2 feet apart, according to the soil—the greater distance for rich soils—and the plants be restricted to a single stem. All the side shoots should be nipped out as fast as they appear; to leave them means that the plant is wasting energy, and later on, if the leaves of adjoining plants touch, the ends should be cut off.

THE INDISPENSABLE POTATO

REDUCING THE SHOOTS.

IT is well known among growers, particularly those who grow a large number of Potatoes, that the weight of the crop cannot be accurately estimated by the amount or strength of the haulm, some varieties making extra strong growth, very pleasing to the eye, which invariably raises the hopes of the amateur grower to concert pitch; while others, equally unaware of the vagaries of the Potato, find satisfaction in noting the number of shoots on the tubers they planted is more than that on a near neighbour's, and, thinking the more shoots the heavier the crop of Potatoes, hopes of very heavy crops run high; but it often happens that in neither case are these hopes justified by results obtained. One of the lightest crops I ever saw followed the lifting of what in the opinion of the grower was to prove a real eye-opener to the surrounding allotment holders, many of whom were invited to see that all was fair and square. The failure in this case was directly due to the too free use of manures, both animal and artificial, the haulm on some plants being nearly 5 feet long; while others, when lifting the crop where each tuber was allowed to develop a little forest of shoots, too often find a very numerous number of tubers, yet, owing to these being slightly above marble size, are of but little use except for feeding pigs or fowls. Neglect to reduce the number of shoots accounts for this.

Speaking in a general way, although not an absolutely infallible guide, the size, also the number of the tubers, is largely governed by the number of shoots a seed-tuber is allowed to retain. Thus one plant, one shoot, invariably results in tubers, although limited in numbers, of great size, ideal shape, and therefore well suited for exhibition, chips or baking. Two strong shoots are usually followed by a crop numerous in number, of good shape, but tubers lacking the size of the first named; but in the majority of cases this deficiency is more than made up by the number and weight of the tubers.

Where three shoots are allowed, the grower may expect to find a very large proportion of the crop not much above "seed" size, and where a special variety is being tried it is just as well to allow as many as this upon some of the tubers; but if more than three shoots run up from ordinary sized sets, the majority of the tubers produced will be what are termed "chats," or pig food. [This may be true of the poor, light soil in our correspondent's garden at Oxford, but it does not apply to all soils.—Ed.]

Of course, soils, situation and seasons, in addition to variety, count for much, but if the tubers were planted on ground in a good state of fertility, with this guide in mind, even those who planted "seed" without sprouting, or others who sprouted the sets, yet forgot to cut away surplus eyes, may now go over the patch before growth gets many inches above ground, and either by means of a sharp knife or careful pulling away with the hand reduce the number of shoots to that which, according to the above, is best calculated to produce tubers of the most approved size.

F. R. Castle.

PLANTS OF THE HIGH ALPS AT HOME.—III

BY E. A. BOWLES, M.A., V.M.H., F.L.S.

THE plants of the highest rocks and shales that only lose their covering of snow for a short period are, naturally, the most specialised of all alpines Stemless, to escape injury from winds, they take, as a rule, the most attractive of all forms for a lover of Alpine plants—the cushion. Then, again, they rush into flower with a speed that seems almost magical, till one realises the many months they have been preparing under the snow for this transfiguration. Directly the snow is off their cushions and the sunshine once again touches them, the flower-buds that have been lying dormant since last summer rapidly fill out and the whole tuft becomes a mass of flowers, often so closely packed as to hide the foliage. They have so short a period between the melting of one season's snow and the falling of another's to blossom and seed that they must needs make haste to make seeds while the sun shines, or the crop will be a failure.

What an excellent floral badge for an Alpinist troop of Boy Scouts some of these would make. The little round buds of Petrocallis pyrenaica, anæmic and yellow, but fully formed when the snow uncovers them, and softly lilac a day or two after, have indeed learned the way to "be prepared."

Naturally enough, most of these cushion plants of the high arêtes and pinnacles are among the hardest of all to make happy in lowland gardens. Perhaps one is foolish to try to grow them at all, but even an occasional success, however transitory, gives so much pleasure in recalling the beauty of the plant when at home, though it can never equal it, that one hopes for more successes and struggles on.

Many of the most beautiful of them, too, are to be found in great profusion when once their home is reached, so that collecting specimens does no harm, and may, indeed, be making room for younger ones—providing new lodgings to let, as I always feel I am doing when I pull down a last year's bird's nest.

It is very seldom possible to linger long on such high places, and the carrying down of a dozen or so tufts is an extension of the joy in their beauty, for though they do not appear so lovely sitting in what spare soup plates and soap dishes one's lodging affords, yet one can learn and enjoy many of their charms in one's own peaceful, sheltered room better than in a raging wind on slippery shales up among the clouds; and there is always the hope that our failure with the last lot we collected has taught us something to avoid, and that this year's collections will really flourish in the moraines, crevices, or pans of the alpine-house we have been planning for them. So though it is wisest and best to go and visit them at home and enjoy them as fully as possible there, it is not altogether folly to bring some away to try again—hoping to have solved the riddle this time, and to have the pleasure of teaching the rock-gardening fraternity how to grow a square yard of Eritrichium nanum or Androsace glacialis. So it is good to live in days when the climbing up to these high lands is regarded rightfully as pleasurable and health-giving exercise, and even those long past recruiting age and not over robust can hope to visit the Roi des Alpes among the rocks of its own home. Apart from the pleasure of overcoming difficulties and achieving the end desired, and the invigorating effect of the keen, light air, there is a joy and knowledge that will always abide with us when once we have wandered among rocky summits where the high alpines grow luxuriantly. Mr. Malby's beautiful picture of a rare woolly-leaved and cream-coloured form of Ranunculus glacialis reminds me well enough of the common pure white form of the plant to create a longing to be again rounding the last but two of the seemingly interminable zigzags of the path up to the little summer military station of La Nunda above Mont Cenis in late June. At that point one has left behind the patches of Viola calcarata, no two quite alike in form and colour; the daffodil yellow patches of Douglasia Vitaliana and full-blown Gentians and Anemones, and is reaching a sodden land of black and slippery shales, with snow patches in every

ERITRICHIUM NANUM ON SCREE OF GRANITIC SCHIST (8,700 FEET).

A RARE WOOLLY-LEAVED RANUNCULUS GLACIALIS (9,500 FEET).

stage of melting, from those dazzlingly white with a recently fallen layer on top like Sunday's clean tablecloth, which lie on the northern side of some shoulder, to soft and oozing patches that are being conquered fast by the sun, and are already pitted with little holes like a toasted muffin or crumpet (I never remember which is the cellular one) and almost as drab in colour.

Anyone reaching this spot for the first time might think the land of flowers was passed, and such a dreary, damp stone slide a thing to be avoided: but one who knows climbs on to it and eagerly looks out for the first straggler of the white Buttercup. And when it is found nestling close among the black stones, and the novice is called to worship before its beauty and is assured that the ridge above is thickly jewelled with such gems, the last intervening zigzags will soon be passed. When the Glacial Buttercup has but first opened its flowers the plant is at its most attractive stage: the crisp, much divided leaves lie flat on the ground and are almost hidden by the round, white flowers. They look so sturdy and have such substance in them that one longs to see a good patch of them at home in the rock garden; but though they do flower for a year or two under especially skilful treatment, they are never the same as those on the mountain tops. They lose the compact habit and the flowers are poor and thin, at least all I have seen; but, of course, the next collection may achieve the long-sought success. The sepals are covered with a rust-coloured down that sets off the whiteness of the petals and gives a protected, cosy look to the buds that is very attractive. Higher again, on the ridge above La Nunda, one may be lucky enough to meet with rosy tufts of Androsace glacialis, one of the most beautiful of high alpines on account of the soft warm shade of its rose colour. But it is necessary, at any rate at that time of year, to cross to the other side of the lake and ascend to the rocks at the entrance of the Col du Clapier if one wishes to visit the Roi des Alpes, Eritrichium nanum. There he sits on his throne of great grey rocks, and the tufts of silvery leaves, fringed with delicate hairs, are lovely enough in themselves. When they are almost hidden by the flowers of softest, purest sky blue, with here and there a pink bud, few plants are more lovely. Perhaps they are most wonderful when seen on gaunt, bare cliffs: where nothing else seems able to grow, the contrast of terrible precipice and delicate downy plant is so striking. As I saw it thus on the Col di Fenestre I thought it even more lovely than on the rounded fallen rocks of the Cenis. I have succeeded in flowering it here two seasons running, but in the granite chip moraine its flowers seemed colourless, and but few opened at a time, so that Myosotis alpestris growing luxuriantly on the other side of the path was really the better plant of the two. Of course, if one knelt down and examined the leaves of Eritrichium closely and realised the difficulty of having it there at all, an enthusiasm could be kindled for it that would never glow for a Forget-me-not which seeds so freely that it must be ruthlessly weeded up by hundreds.

ANDROSACE GLACIALIS ON GRANITIC SCREE (9,400 FEET).

Parts of a Flower.—Calyx, corolla, sepal, petal, pistil and stamen are now the A B C of every gardener, and multitudes who are not, that it is of interest to know the ages of these words, or the date when they were first used in their present meaning; for if Pliny wrote of a stamen and Theophrastus of a flower, it must not be assumed that the meaning they attached to these terms was the same as twentieth century people mean. "Flower" to Theophrastus meant the corolla and nothing more, while it is very doubtful if Pliny when he wrote "stamen" always differentiated it from pistil. Calyx was mentioned by Roman and Grecian writers; corolla, in 1736; pistil, 1552; sepal, 1790; stamen, by Roman and Grecian writers; style, in 1606; filament, 1736; anther, 1660; ovary, 1718; carpel, 1819; and pollen, 1561.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

General Work.—The month of June necessitates much labour and attention to growing crops to maintain them in a satisfactory condition, especially when the weather is hot and dry. Fortunately, so far this year we have had abundant rains, which have minimised the work among kitchen garden crops. Although I have advised watering, mulching, the value of hoeing, and the early thinning of seedling crops, I return to these items again with a view to advising new readers of THE GARDEN, of whom there are no doubt many. Such notes, too, may be a reminder to others.

Watering is often misunderstood by the amateur; he is apt to think it is of no value to water once if he cannot continue to do so. This is a mistake; one good soaking of the soil is of much benefit to the growing crops if means are taken to conserve the moisture in the soil, which can easily be done by mulching the surface within 1 foot of the crop. No doubt mulching materials are not easy to obtain. They are in great variety, such as half-decayed manure, vegetable refuse, wood-ashes and decayed leaves, old potting soil, straw, or even the mowings from lawns. If none of these are available, stir the soil an inch or so deep to avoid cracking of the surface; it is through such fissures that the sun extracts the moisture. The worst form of watering is that of sprinkling the soil during the daytime, not giving sufficient to moisten any of the roots. Sprinkling growing crops in the evening after a hot day is beneficial, as it freshens the leaves and does much good, providing the roots are in a moist condition.

Potatoes are growing vigorously where the seed was in good condition at planting-time. In the case of any that suffered from too low a temperature, there are distinct signs of irregular and weakly growth. Earth up the rows as fast as required, leaving at least 4 inches of space at the top as a receptacle for water from rains.

Turnips should be sown at intervals of a fortnight in well-watered drills, covering the surface of the rows with short grass as a preventive against the Turnip fly, which is very active this year.

Cucumbers are very popular this season and are being largely grown as an article of food. Plants that have been fruiting for some time should be pruned well back to induce new growth, covering the surface with fresh soil and manure in equal parts to make fresh roots, thus encouraging additional growth.

Cauliflowers sown in April should be planted out as fast as the ground is available, not allowing the plants to become too large in the seed-bed. The earlier-sown batch from frame-raised plants are growing vigorously and will benefit by a heavy application of liquid manure.

The Flower Garden.

Summer-Flowering Chrysanthemums raised from divisions of the old stools or from cuttings in April should now be put out into their flowering quarters, either singly or in threes, to fill up gaps in the herbaceous border, where their autumn flowers will help to prolong the display.

Summer Bedding Plants should now be put out after being thoroughly hardened. Most persons this season are simply planting sufficient to maintain their stocks of such subjects as Fuchsias, Heliotropes, Lantanas and Calceolarias, using the bulk of space for the production of food-stuffs of some kind or other. Some are planting all their flower-beds with vegetables and transferring their plants to a portion of the kitchen garden, under a mistaken notion of space economy. Limited space should be given to such plants as those named, pruning back the shoots as they make progress.

Tulips that have flowered should be lifted as the foliage changes colour, drying the bulbs thoroughly in the sun before storing them for another season.

Shrubberies.—Much pruning can now be done to subjects that have flowered, such as Lilacs, Berberis, Deutzias, &c., thus keeping the plants within bounds and inducing vigorous growth for next season's flower crop.

Newly Planted Subjects should be attended to as regards watering, giving a mulching on the surface if they show any sign of a change in the colour of the leaves.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Latest Peas.—In the less backward districts there is still time to sow a large batch of either The Gladstone or Sharpe's Queen, or both. More space may now be given the seeds, and by no means should the ground be enriched, the cool nights of autumn causing sufficient growth without manurial aid. Make the trench a few inches below the general level, in order that water may be applied with facility during the hot weather that may be expected next month and in August.

Leeks.—The planting of the main batch cannot be longer delayed except at the expense of a smaller crop. We have been so used to eating only the whitened portion of the Leek and throwing away the green part that a long-stemmed variety only is worth growing. The Scots method of planting is now well understood, which consists in drawing deep furrows 14 inches to 15 inches apart, and in the furrows at every 5 inches to 9 inches making a deep round hole, into which the Leek is dropped and watered. Subsequent hoeings fill the holes and level the ground.

Onions.—These were planted later than I previously remember. If not already surface-dressed with a stimulating manure, no time should be lost in its application, afterwards hoeing all exposed surfaces. It is astonishing the amount of manure Onions—and other vegetables as well—can assimilate with advantage and with no regard to the formulas laid down by scientists.

Leek Bulbs.—Those who have kept over old Leeks may soon look out for the sweet bulbs which form during the summer months at the base of the plants. The flavour is distinct from the Leek as usually eaten, and, indeed, from any other vegetable.

Fruit Under Glass.

Tomatoes.—The earliest crop will now be nearing exhaustion, and unless the plants have been kept in good condition they will not be worth keeping longer, the remaining fruits being so small. Later crops made a tremendous set of fruits early in May. I had three structures planted with them not long before the advent of that glorious weather, and the progress the plants made was really astonishing. No fire-heat was used, but then no ventilation was given, and each day the temperature rose above 100°. It is one of the few fruits that is capable of standing extremely hot temperatures without ventilation; but the atmosphere must not be saturated with moisture, else elongated, etiolated stems and little or no fruit will result. For two years a slight attack of sleeping sickness has appeared in one structure, which a free use of flowers of sulphur has stayed.

The Pleasure Grounds.

Mowing, &c.—Mowing can only be carried out with pleasure to all concerned when the grass is kept closely cut. My girls take two-hour turns and run the machines quite easily and quickly. Worst of all are the unsightly uncut parts near shrubs, statues, &c., which the mowers cannot reach. They are not at all difficult to keep in good condition if repeatedly cut with the scythe or, in some instances, cut low with hedge-shears. Walks and verges of beds should be treated on the same principle, and as a rule in weather when other work cannot be done, walks being freshened in similar weather by raking.

The Hardy Fruit Garden.

Gooseberries will now bear extensive pickings of the green fruits, which, not too young, are a valuable food. Growing the bushes on the non-pruning system, we have annually large quantities of green berries, which must be gathered in order to give those left to ripen a chance to grow to ordinary proportions.

Strawberries cannot be longer left without some strawy material being placed alongside the plants to prevent the fruits which will soon ripen from being splashed by soil. If seedling weeds are in evidence, the Dutch hoe should be run between the rows previous to laying down the straw.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

COLUMNS FOR THE CURIOUS

"THAT HEDGE."—It was a hedge such as, minus decayed rubbish and dirt, would have pleased "Anne Amateur." The justification for its existence was the hope of its planter that it would give seclusion from the roadway below, above which the garden was elevated about 6 feet, with the aid of a retaining wall of brick. It had failed to secure the desired seclusion, and, as becomes a failure, had been consistently neglected, till it had become a mass of dead rubbish with a few green leaves to cover it over. The composition of this hedge was up to anything "Anne Amateur" ever imagined. There was a Prunus Pissardii at one end, which overtopped all else, and thus had some claim to distinction æsthetically. In this it was surpassed by a Forsythia suspensa, a shrub never seen in native grace of golden inflorescence upon leafless stems, unless where neglected. Here it glorified the roadway and its depressing dead walls in late spring, as few other flowers of spring could. Space the Forsythia must have to ramble in, though any aspect but a very cold and sunless one will suit it. A Lilac in this hedge looked less happy, and various Roses had given up the struggle for existence. The hedge concluded, at the opposite end to that of the Prunus, with a Sycamore. If the planter had finished with these various subjects, he might have attained his object, though far from an ideal assortment. But, dubious as to these forming the dense screen desired, he introduced Irish Ivy and Honeysuckle. Both of these subjects show up well where the survival of the fittest is in question. They did in this hedge, the coarse, dust-collecting Ivy especially. It killed the Roses and, as it had its own way for years, made a network of stems, dead and living, as far up as a supporting wire would allow, which collected dust and dirt of all sorts to a depth of over a foot, then climbed the taller shrubs on a mission of strangling them also. This is an object-lesson on how not to do it in attempting to transplant Nature to the confined spaces we call gardens. A garden at the best is a concession to the passion of acquisition, which desires to monopolise something as his or, and often, her very own. For simple Nature study the common, the field, the woodland, are incomparably better than the confinement of the garden. But the little bit of Nature which we may call our very own is the garden, and the proof of its exclusiveness as our very own is the hedge fence, of whatever sort, enclosing and bounding it. If space is limited, as in the villa garden, the fence is always the supreme test of the owner's culture and perception of the fitting and beautiful. In most cases the residence is built by someone with no pretension to culture or refinement. He imposes a harsh and almost brutally depressing brick wall or wooden fence, and there you are, after you have paid for the outrage upon the canons of natural fitness and beauty. Then a jobber is employed whose mentality has never reached the beautiful, and he duly sees to it that the initial outrage upon the beautiful in the back garden is maintained, and at no inconsiderable cost either. It is true there are hedges, such as those of Whittinghame and Tyninghame in East Lothian, famous for more than a century. But they are in extensive and ancient domains, and of architectural designs and dimensions; their limitations are not obtrusive. Also there was no predecessor of "Anne Amateur" at the planting of them. If the restful communion of Nature is to be found in the garden—and in these days of war and stress the garden must do its bit in saving the spiritual in humanity, as Potatoes and Cabbage certainly cannot—the fence must come into line with Nature and contribute to its spiritual impression. If the gardener is incapable of this, he must be regarded simply as a "hewer of wood and drawer of water," whose servitude demands control of higher intelligence. The spiritual instinct latent in all must develop and flourish, as we see the Nature we try to cage in gardens growing and blooming. But the charm of the picture is deepened by its frame and hanging; indeed, it may be lost by an unbecoming setting.—HURSTCOT.

"POTATOS" OR "POTATOES."—Potatoes is the correct spelling according to all the dictionaries. There is no option. The Oxford Dictionary gives five columns to the word and furnishes a great number of quotations. In 1597 Gerarde wrote, "the common Potatoes" and "Virginia Potatoes." In 1598 Shakespeare wrote, "Let the skie raine Potatoes" ("Merry Wives of Windsor," Act V., Scene V.) Edmund Waller (1606-1687) wrote:

> "With candy'd plantains and the juicy pine,
> Or choicest melons and sweet grapes they dine,
> And with potatoes fat their wanton swine."
> —"The Battle of the Summer Islands."

In the "Wealth of Nations" Adam Smith says: "The food produced by a field of potatoes is not inferior in quantity to that produced by a field of wheat." Tomatoes, grottoes and mottoes are correct forms.—THOMAS WHITE.

—— With regard to "Jay's" enquiry whether "Potatos" or "Potatoes" is the right spelling, the Oxford Dictionary gives as the plural "Potatoes," "Tomatoes."—H. PITCAIRN.

—— "Jay," on page 192, issue May 26, in asking this question must be a "jay" indeed if he supposes that such a question can be "finally settled" or that there is a right and a wrong way. First, who is the authority to decide in matters of English, considering we have no Academy of Letters? Certainly neither the Royal Horticultural Society nor the leading contemporary. They are only like other people—they can adopt which way they please and support their view by quoting their standard; but other people have an equal right to adopt another standard.

If the authority of antiquity appeals to your correspondent he will find in Bailey's curious old dictionary (twenty-third edition, 1773) the word given in its plural form, "Potatoes."

Collins, in his Authors' and Printers' Dictionary, says Potato takes in the "*pl.* -es." Dr. Angus, in his "Handbook of the English Tongue," tells us that several nouns of foreign origin ending in "o" add "es" in the plural, quoting among a number of them "Potato-es."

Finally, Dr. Brewer, in his Dictionary of Difficult Words, gives Potato, *plu:* Potatoes (rule xlii) and Tomato, *plu:* Tomatoes (rule xlii). But in his preface this authority has much to say about the plural of nouns ending in "o," and it is interesting to record his opinion, for he says: "We have now gone through every word ending in 'o' except six, and can find no reason why the plural of all should not be 's.'" He, nevertheless, admits the common custom of spelling manifesto-es, mosquito-es, motto-es, mulatto-es, potato-es, and tomato-es in the other way.

Therefore "Jay" may rest assured that he has the right to please himself. This is one of those cases in which there is no right and no wrong way. It is purely optional. He can select his authority and stand by it so long as he has an authority, and that is all anybody else can do—until we establish an English Academy of Letters.—C. H. P.

EDITORIAL NOTICES

Every department of horticulture is represented in THE GARDEN, *and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.*

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, *Tavistock Street, Covent Garden, W.C.* 2.

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C.* 2. *The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

ANCHUSA DROPMORE VARIETY (*Huxham*).—The best time to have taken root cuttings of the above in order to obtain "good flowering plants for next year" would have been between November, 1916, and February, 1917. The product of such cuttings would have resulted in nice plants fit to put out in their permanent quarters in May or June following, in time to have made a growth and development essential to a good flowering in 1918. This latter is entirely dependent upon a full season's growth beforehand, which is not possible from June propagation or November planting. All root-cutting propagation to be successful should be indulged in when the plants are dormant. Roots taken in June, when full of sap and vital energy, would most probably perish, and in any case would have no time in which to make plants large enough for a representative flowering, if a flowering at all.

KITCHEN GARDEN.

GARLIC IN WOODLAND (*Rev. G. C. H. R.*).—We are not quite certain what plant is referred to, but it is probably the Broad-leaved Garlic (Allium ursinum), which, so far as we know, has never been used for food. It is probably not poisonous, but its intolerable odour would prevent its use to any extent, while its value as food would be very small indeed. The actual food value of the Onion itself is low, and this would probably be very much lower. Speaking generally, plants that grow in the shade of trees (unless the shade is very light indeed) cannot be expected to have any great food value, for they are severely handicapped in the direction of food-making themselves, owing to the small amount of light that reaches them.

THINNING OUT THE HAULMS OF POTATOES (*P. L.*).—After seed Potatoes have chitted or sprouted in spring, and before they are planted, it is a good plan to rub off some of the small, weakly chits, reserving only three of the best on the tubers to be planted, the object being to prevent the growth of too many small Potatoes. But once the Potatoes have been planted, they should not be disturbed afterwards.

SHOULD POTATO FLOWERS BE REMOVED? (*Tim*).—The removal of the flowers as soon as they appear as buds may make a slight difference to the crop, but only in a few varieties which set seed will the difference be noticeable.

THINNING POTATO GROWTH (*Tim*).—If you thinned the sprouts on the tubers to two or three, allow all that appear above ground to remain. The actual weight of crop depends largely upon the extent of the foliage exposed, and the object of reducing the sprouts is to restrict the number of tubers, not the amount of foliage. Do not remove the shoots now.

SHOULD POTATOES BE EARTHED UP? (*Tim*).—Earthing up does not increase the crop of Potatoes. It helps to prevent some of the tubers from being spoilt by becoming green, and it also helps to protect them from the Potato disease, so we strongly advise earthing up.

BURGUNDY MIXTURE FOR SPRAYING POTATOES (*M. A.*).—To make Burgundy mixture dissolve 1lb. of copper sulphate in five gallons of water in a wooden vessel, 1½lb. of washing soda in another five gallons, and mix the two by pouring together into a third vessel. The mixture must be made afresh each time spraying is to be done.

POTATOES IN POTS IN A GREENHOUSE (*Mrs. A. J. J.*).—The Potatoes will succeed better now if placed out of doors in a warm sunny position than if left in the greenhouse. Place three or four stakes in the soil at the side of the pots, and then tie some string round the stakes to hold up the haulm. Pick off the flowers as fast as they appear, because they exhaust the plants. When the haulm turns yellow, then the Potatoes will be ready to use. Do not keep the soil too wet or too dry, but only moderately so.

THE GREENHOUSE.

NAMES OF PELARGONIUMS (*Curious*).—Pelargonium flowers travel badly, and those you sent had on receipt dropped all their petals. This renders correct naming a difficult matter; but, as far as we can make out, the varieties are: 1, Umbria; 2, Mme. Grillot; 3, Mrs. Charles Pearson.

TREATMENT OF CYCLAMENS AFTER FLOWERING (*M. C.*).—When the flowering season is past, the Cyclamens may be removed to a frame, lessening the amount of water as the leaves turn yellow. A liberal amount of air should be given them. Under such conditions they will soon become quite dormant, when they will need only just sufficient water to keep them from shrivelling. Then towards the latter part of July they may be taken out of the pots, shaken clear of the old soil, and repotted in a mixture of two-thirds loam to one-third leaf-mould and a good sprinkling of broken brick rubble and sand. Returned again to the frame they will need only to be lightly watered till new leaves make their appearance. As growth advances, an increased amount of moisture at the roots will be required. During the summer the best place for them is in a frame in a shady position where plenty of air can be given, but away from the drip of trees. When the pots get well furnished with roots an occasional stimulant must be given, but care taken to keep it from the crowns of the plants. If the Heliotropes are in pots sufficiently large they may be occasionally given a little liquid manure or some other stimulant, while if in small pots they will need to be put into larger ones. A suitable compost is a mixture of loam, leaf-mould and sand.

ADVICE ON TREATMENT OF GREENHOUSE (*M.C.*).—It is very essential to bear in mind that the temperature of the outer air at this season is sufficiently high for the welfare of the occupants of the greenhouse. Owing to this, plenty of air may be left on the structure night and day unless the weather is abnormally cold. At the same time, plants dislike a direct draught, and so ventilation should be arranged that they are subjected to this as little as possible. The greenhouse will require to be shaded from the sun's rays, the best plan being by means of roller blinds, which may be let down when required and drawn up during dull weather. Failing these, the glass may be painted with one of the many shading substances now to be obtained, that known as "Summer Cloud" being still as good as any. The frequency with which the plants require water will depend, of course, upon the size of the pots and other particulars. During very hot weather the better way is to water in the evening, as the plants then have the whole of the night to absorb the moisture. The question of syringing or spraying is an important one, and plants are greatly benefited by it when the weather is hot and dry, especially in the evening. As a rule, plants that are in flower should not be syringed, particularly the various members of the Pelargonium family. Unless the plants are syringed occasionally, red spider is very apt to attack the foliage of many of them. Aphides or green flies are extremely injurious to a great number of greenhouse plants, and make rapid headway unless checked. A sharp look-out must be kept for these pests, and at their first appearance the house should be vaporised with Nicotine Compound.

TREES AND SHRUBS.

PRUNING OVERGROWN LILACS (*H. N.*).—You can prune the plants as suggested, and the sooner it is done after flowering the better. We would suggest cutting a few of the growths down to the ground, and the others at varying heights up to half way. Well fork round the bushes, and when new growths start give some liquid manure occasionally. As you desire to become a member of the National Rose Society, we would advise you to write to Mr. Courtney Page, Hon. Secretary, National Rose Society, 25, Victoria Street, Westminster, S.W.

ROSE GARDEN.

ROSE FOLIAGE CURLED (*M. H.*).—The foliage sent is attacked by the leaf-rolling sawfly. You should pick off the foliage when first seen affected. You might spray with Nicotine Wash, but when once the trouble has started there seems to be no real cure. Some experts believe the sawfly is first introduced in the form of cocoons on the roots of Briars, so that any new plants should be well washed before planting. It would be a good plan to replant your Roses in autumn, if possible, adding a good dressing of lime, and, before replanting, well trim and wash the roots.

MISCELLANEOUS.

OXFORDSHIRE BEE-KEEPERS' ASSOCIATION.—I notice that in your reply to Mrs. H., Oxon, "Purchasing Bees," on page 205 of THE GARDEN, you say there is no Oxfordshire bee-keepers' association. I beg to say there is one, although not affiliated at the present time with the British Bee-Keepers' Association, and the hon. secretary's address is Mr. C. B. Bartlett, Barley Park, Witney. All your other information on the subject is absolutely correct.—DAVID HANCOX.

DESTROYING ANTS (*Tim*).—Ants may be attracted and killed by standing syrup mixed with arsenic, or a fresh bone dipped in arsenic, near their haunts, but, of course, out of the reach of all animals. If their nests can be found, pour boiling water into them at night, or a solution of formalin, one part to fifty parts of water.

RECIPE FOR MARROW JAM (*Abundance*).—Peel the Marrow, remove seeds, and cut the pulp into small pieces. To every pound of pulp add a pound of sugar and two Lemons, sliced. Let the ingredients stand for twenty-four hours, then add two ounces of bruised Ginger and a dram of Chillies, tied in muslin. Boil slowly for an hour, then take out the Ginger and Chillies, and continue to boil until clear and ready for potting.

GREEN TOMATO JAM (*Forlorn*).—You might with advantage try the following recipe: Four pounds Tomatoes, 3lb. preserving sugar, flavouring to taste. Break up the Tomatoes, put them in a preserving pan, and let them come to the boil. Add the sugar, and for flavouring either a few Cloves, a small piece of whole Ginger, or the grated rind of a Lemon. Boil fast for about twenty minutes until it will set when placed on a plate in a cool place.

BRACKEN AS MANURE (*C. P.*).—The manurial value of Bracken by itself is small. It is useful for litter, though less so than straw and peat, being less absorbent. If it is stacked tightly and allowed to decay, then dug in, it would be of greater value than if used freshly cut on a sandy soil, for, as you say, it decays but slowly.

TOMATO CHUTNEY (*Recipe*).—2lb. sour Apples, 1lb. brown sugar, 2oz. whole Ginger, 2oz. salt, ½lb. Raisins, 1gr. Mustard seed, ½oz. Chillies, 1½lb. Onions, 1½lb. Tomatoes and 3 pints vinegar. Skin the Tomatoes; chop all ingredients or put them through a mincer; boil all ingredients, except the Tomatoes, one hour. Then add the Tomatoes, and boil again until it thickens. If not hot enough, add a dessertspoonful of ground Ginger in addition to the 2oz. whole Ginger. Use an enamel saucepan, not iron. Fill jars and tie down.

NAMES OF PLANTS.—*J. D. H. S.*—Pyrus salicifolia (Willow-leaved Pear).——*W. M. R. C.*—Prunus Padus (Bird Cherry).——*A. M.*—1, Sanicula europæa (Sanicle); 2, Asperula odorata (Woodruff); 3, Lepidium Draba (Witlow Cress).——*E. F. C.*—Exochorda grandiflora.——*J. F.*—Staphylea pinnata (Bladder Nut).——*Guelder.*—Kerria japonica fl.-pl.

SOCIETIES

SCOTTISH HORTICULTURAL ASSOCIATION.

THE monthly meeting of the Scottish Horticultural Association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the evening of June 5. The chair was occupied by Mr. John Phillips, Granton Road Nurseries, president of the association. The paper of the evening was given by Mr. James Whytock, V.M.H., gardener to the Duke of Buccleuch, Dalkeith Palace Gardens. Mr. Whytock's subject was on "Grape Growing" and was characterised by the practical character of his papers given to the association. Although so frequently treated, Mr. Whytock invested the important subject with freshness from the way in which it was dealt, the various details being fully considered in an able way. He was heartily thanked for the paper. The hall was brightened by an interesting and beautiful exhibit of May-flowering Tulips from the firm of Messrs. Dobbie and Co., the Royal Nurseries, Craigentinny, Edinburgh.

Trials of Stocks (Under Glass) and Myosotis at Wisley, 1917.—The following awards of merit have been made to Stocks and Myosotis by the Council of the Royal Horticultural Society after trial at Wisley: Stocks.—Crimson Brompton, sent by Messrs. R. Veitch, Exeter; Mammoth Pale Lilac, sent by Mr. Dawkins, Chelsea; Mammoth Pyramid Flesh Colour, sent by Messrs. Hurst, London; Mammoth Rose, sent by Mr. Dawkins, Chelsea; and Nice Giant Light Blue, sent by Messrs. Nutting, London. Myosotis.—Alpestris Indigo Queen, sent by Messrs. R. Veitch, Exeter.

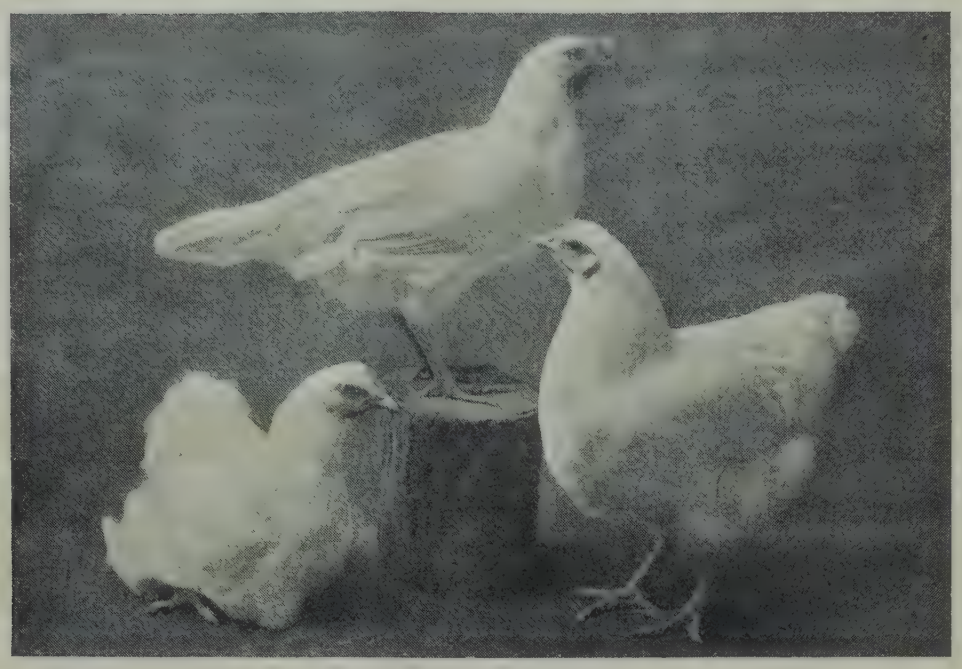
TRADE NOTE

SPRAYING MIXTURE FOR POTATOES.

FOR many years Messrs. Keeling and Walker, Limited, Milton House, Surrey Street, London, W.C.2, makers of Keeling's "Kiln" Brand Spraying Mixture for Potatoes, have shipped immense quantities of hydrated oxide of copper to France, where it has been used with good results for spraying Vines and fruit trees. This year the mixture is being used for spraying Potatoes in this country, and we learn that large orders have followed the recent announcements to the public made by this firm. In order to meet the wishes of holders of small allotments whose requirements are limited, it has been decided to supply 1lb. samples—sufficient to spray 10 rods of Potatoes once—for 1s. 6d. post free.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.* 2.

For the Poultry-Keeper



CONDUCTED BY

W. POWELL-OWEN

HAVING dealt with albuminoid ratios, I will now pass on to vegetables, roots and wild plants that are useful foodstuffs for fowls. This is the first time that any effort has been made to classify wild plants, &c., in connection with the feeding of poultry.

How to Give Greenstuffs.—There are several methods of giving greenstuff. The latter can be boiled and included in the soft food after being minced, or it can be given raw. The former plan is adopted in the majority of cases, but I would point out the necessity of giving greenstuffs primarily raw, owing to their succulence. It is true that the inclusion of boiled greenery in the mash makes the latter palatable, but fowls need greenstuffs in both forms. One must therefore see that raw greenery takes its proper place in the fowls' dietary. There are, too, several ways in which the raw material can be provided. It can be (1) finely chopped and placed before the fowls in a trough; (2) finely minced and added to the soft food just before the ingredients are dried off; (3) placed in a rack; or (4) put in a string bag. Where green leaves are being fed, they can with advantage be placed in an ordinary string bag, the latter being suspended on a string from the roof of the poultry house or run. The bag should hang a foot or so off the ground, so that the birds can jump up for the greenstuff and by so doing obtain exercise and occupation. If both heart and leaves of any greenery are given, the whole can be suspended a foot or so off the ground on a string.

The Use of Roots.—Roots (by which I mean mangels, swedes, turnips, &c.) come in most useful during the winter months, when ordinary greenery is scarce. They are usually stored in beds or pits after being cut, the tops being fed at the time of cutting. Roots can also be given in several ways: (1) finely sliced and placed in troughs; (2) finely sliced and added to the soft mash prior to the latter being dried off; (3) cut into halves or quarters; or (4) boiled and "mashed" and used in the soft food. Here again I am against boiling, except by way of an occasional change, since the fowls greatly relish, and benefit by having, roots in their raw state. A plan I usually follow is to cut each root in half and to drive a long nail right through each portion into a heavy piece of wood. The fowls are then able to pick out the inside of the root, and clean feeding is the result. The "shells" of the roots that are left can be boiled and added to the soft food.

Clean Feeding Necessary.—Clean and careful feeding must be adopted in the case of greenstuffs. I make a point of washing all roots prior to use. Greenery of any kind should not be given wet, or it is liable to set up diarrhœa or internal disorders. If it is wet when gathered, it should be placed on a wire-netting shelf to drain. Frozen greenstuff or roots must be thawed and drained prior to being fed. On no account should fowls have access to stale greenstuffs, which should be collected and removed from the run daily. As regards the amount to give, see that the fowls have only what they can readily eat up cleanly. One cannot perhaps give the fowls too much raw greenfood in the summer, provided the supply is kept up daily. If the birds have not been accustomed to greenery, start with an ounce per diem for each bird and gradually increase the amount. This will avoid gorging, which is harmful. Success in the feeding of fowls depends to a great extent on the provision of *variety*, and with so many kinds of greenery available the owner should ring the changes on them occasionally. We must not overlook the fact that in her natural state Biddy samples this, that and everything as she forages. *Too sudden* changes are harmful, however, and must be avoided.

Foodstuffs and How to Use Them.—The following notes on suitable greenery, &c., should prove useful. The foodstuffs dealt with should be treated not as staple foods, but as adjuncts.

Dandelions.—Dandelion leaves have medicinal properties, and should be fed raw after being finely minced. Many poultry-keepers use leaves, roots, stems and flowers. The leaves act favourably on the kidneys.

Nettles.—The tender leaves of nettles can be boiled and used in the soft food.

Chicory.—This can be recognised by its bright blue flowers of the size and shape of the dandelion. It grows wild in certain parts of the country in dry wastes on roadsides and borders of fields. Chicory leaves act as a tonic and purify the blood, and should be given raw. The giant variety, like that of the dandelion, can be specially cultivated from seeds. Where this is so, the plant quickly grows several feet high, and it is usual to cut off the stems when they are about a foot high to ensure a bushy growth. The albuminoid ratio is 1 to 6.

Chickweed.—A very useful auxiliary greenfood, especially for chickens. Chickweed is to be found almost everywhere.

Chervil.—The foliage and habit of this plant are the same as the sweet cicely, which was once known as the great chervil.

Sweet Cicely.—A member of the parsley family, this wild plant is easily recognised by its carraway-like odour. The leaves have excellent tonic properties.

Fennel.—Here again we have a member of the parsley family, and the leaves can be utilised for poultry.

Coltsfoot.—Not until the plant has finished flowering do the leaves—which can be used for fowls—appear. They are somewhat heart-shaped.

Comfrey.—Leaves of this plant have medicinal properties for internal disorders. The plant is found on moist banks.

Coriander.—Another member of the parsley family, the leaves of which can be utilised for fowls.

Groundsel.—Leaves of groundsel can readily be distinguished owing to their toothed or jagged lobes.

Plantain.—The leaves of either the narrow or broad leaved variety can be utilised.

Other Wild Plants.—Leaves of hogweed, marshmallow, shepherd's purse, sow-thistle and thyme are others that can be recommended.

Furze or Gorse.—It is not generally known that furze or gorse has good feeding values. The dark green sprouts can be fed raw, or they can be dried and chaffed, then being used in the mash like clover meal. The albuminoid ratio is 1 to 3.

Apples and Pears.—If these are given to fowls, they should in all cases be well boiled, and even then be used in moderate quantities. Fowls allowed to eat a lot of raw *fallen* apples usually waste away owing to poisoning. The albuminoid ratio of apples and pears is 1 to 38.

Elderberries.—When thoroughly ripe these represent a useful auxiliary food, and the birds seem to like them. Blackberries, &c., can also be utilised.

Hips and Haws.—Even hips and haws can be utilised in the mash. They should be thoroughly boiled and be passed through a mincing-machine or bone-cutter prior to use.

Grass.—Where grass is cut and carried to the fowls, only the young succulent shoots should be selected, the coarse stuff being discarded. It should be finely minced to prevent crop trouble. Lawn clippings are excellent for both chickens and adults. The albuminoid ratio of grass is 1 to $4\frac{3}{4}$.

Cabbage.—If this greenery is cooked, it should be boiled alone and the "strong" water thrown away. Ratio: *Outer leaves*, 1 to 3; *inner leaves*, 1 to $4\frac{1}{2}$.

Cauliflower.—Leaves of cauliflower represent a good greenfood.

Celery.—This must not be given in large quantities, as it is rather stimulating. Both tops and outer stems can be utilised sparingly.

Broccoli.—Here we have another good greenery.

Brussels Sprouts.—While the sprouts are very widely used, the stems, if cut down the centre, provide the birds with amusement and "something to do." The sliced stems can be nailed to a heavy board or the side of a box after the manner recommended for roots.

Endive.—Excellent medicinal properties are possessed by this greenstuff, which is widely used for chickens.

Lettuce.—With a ratio of 1 part albumen to 6 parts carbohydrates, lettuce contains excellent medicinal properties, and is most useful for poultry of all ages.

Onions and Tops.—Given in limited quantities to prevent tainting the eggs, onions and onion tops are excellent. They should be finely minced and added to the mash prior to "drying off." If given regularly to chickens, this food will guard against gapes and colds. Ratio: *Onions*, 1 to 7; *tops*, 1 to $\frac{1}{2}$.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.2*

Egg-Preservation.

THE preservation of eggs should be much more popular with poultry-keepers and housewives than it is. Eggs can be put down in preservative when they are low in price, and taken out for use during the autumn and winter when there is more or less a scarcity of new-laids. Special preservatives can be purchased very cheaply, and every surplus egg should be preserved. Eggs should not be placed into the prepared liquid until they have rested for twelve hours after being laid, and if they are from hens with which no male bird has been running, so much the better. Select only sound, fresh eggs with smooth, firm shells, and place the containers in a cool place. It is unwise to attempt to preserve eggs that are ill shaped or not smooth. Such eggs are inclined to crack and may spoil others that are preserved in the same vessel. As the eggs are removed from the preserving pans they should be tested before a strong light, any containing dark substances being discarded.

The Feather-Plucking Habit.

I DO not know of a more annoying vice than feather-plucking, unless it be egg-eating. It quickly spreads through a flock of fowls if unattended to. There are many causes to account for the habit, chief of which are: 1, overfeeding; 2, overcrowding; 3, lack of exercise and "something to do"; 4, insufficient supply of green-food; and 5, the overuse of fattening or heat-producing foods. By avoiding the above, one can usually cure the vice by bathing the feathers round any bare parts of the birds with quassia-chip water. The chips should be soaked in boiling water overnight, and the liquid will impart a bitter taste to the feathers treated. A few feathers can be soaked in this strong liquid and placed in the sun for the fowls to "sample." An aperient is sometimes advisable to cool the birds' heated blood.

Curing Broodiness.

THE secret of curing broodiness lies in taking the broody hen in hand directly the fever shows itself. If eggs are left in the nest, whether they are new-laids or china "dummies," the hens will be enticed to go broody. Collect the eggs regularly and often each day, and at night-time see that no birds remain on the nests. Attached to the side of each house should be a broody coop with a barred or slatted bottom and front. As the hens go broody they should be placed in this "cold-chamber" within sight of their sisters. Care should be taken to see that they have a constant supply of fresh drinking water—a point often accidentally overlooked. By using in the breeding pens hens that have not shown a tendency to excessive broodiness, the latter can be to a great extent bred out of a strain.

The Value of Poultry-Manure.

POULTRY-MANURE is a very valuable fertiliser, although so many poultry-keepers, I am afraid, waste this by-product of poultry culture. An adult fowl produces nearly a hundredweight of manure per annum, and dropping-boards should be fitted below the perches so that the manure can be collected daily and stored. Before being stored, poultry-manure must be dried, and it is quite a good plan to spread it out on the floor of a dry outhouse. It must not be heaped, but raked lightly over the flooring. When it is sufficiently dry, it can be stored away in barrels and boxes and used as required, preferably in "liquid" form. The latter plan is recommended, since fowl-manure is very strong. Another method of storing is to place the manure in boxes or barrels with an equal amount of soil, but it is more valuable in its pure state.

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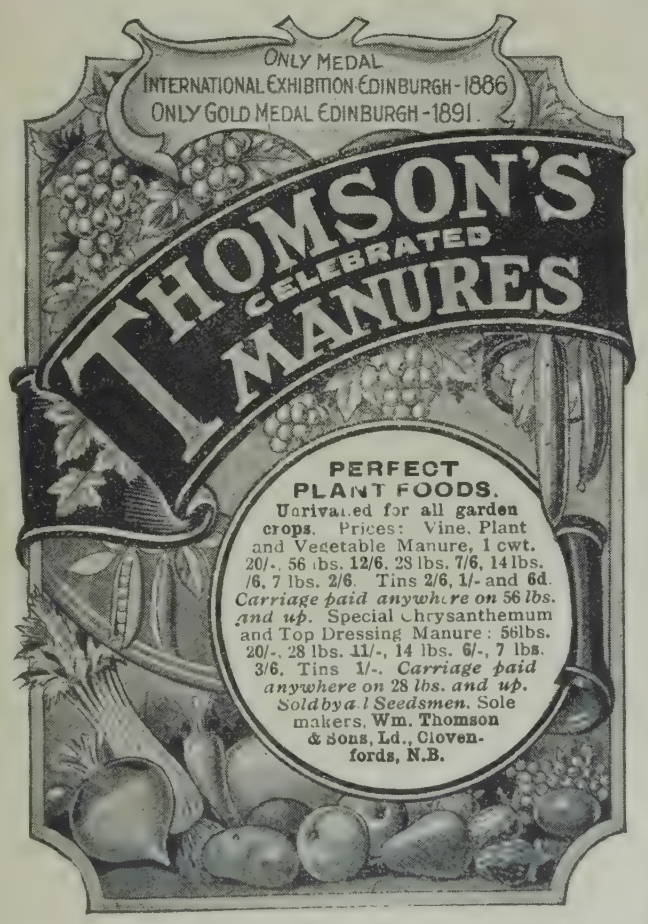
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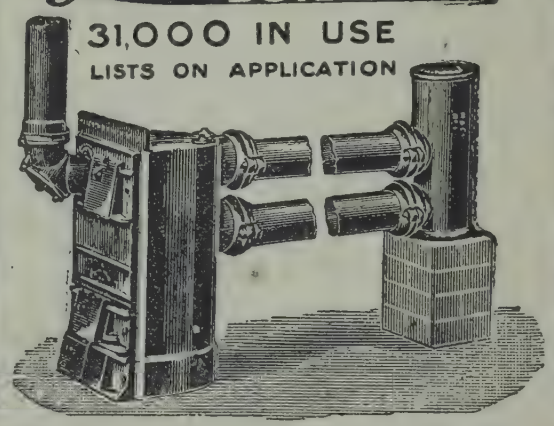

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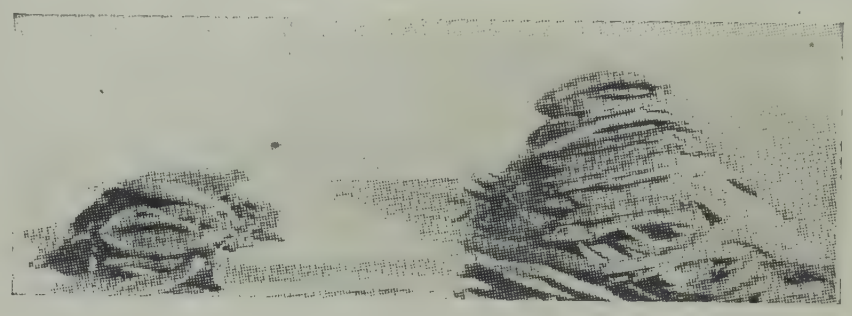

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THE GARDEN.

No. 2379.—Vol. LXXXI.] [June 23, 1917.

NOTES OF THE WEEK

FROM all parts of the country we hear reports of the weak and spindly growth made by late Potatoes. This does not necessarily mean that the yield will be disappointing, as there is still plenty of time for the crop to mature. But this is not the time to "rest and be thankful." The crop may be assisted by hoeing frequently between the rows. Before earthing up it is an excellent plan to sprinkle wood-ashes or soot between the rows, while a dressing of superphosphate of lime (2oz. per square yard) and sulphate of ammonia (1oz. per square yard) will be of great assistance if applied now.

Spraying Potatoes.—So far the much dreaded Potato disease (Phytophthora infestans) does not appear to have shown itself. It is not as a rule until the middle of July that the disease first makes its appearance plainly visible. The first signs are greyish patches of various sizes on the leaves, particularly on the lower ones. The leaves curl up, forming on their under sides a whitish, frost-like mould. The infected leaves eventually turn black and die. The disease spreads like a pestilence, turning haulms black and rotten in its trail.

Insure Against Potato Disease.—The disease may not appear this year, although the chances are that it will appear all too freely, as, owing to the Potato famine, many diseased tubers were planted as seed. Whether the disease appears or not, the Potatoes should be sprayed as a preventive and as an insurance against disease. The sole object of spraying is to prevent infection. There are many sprays now in use, the best known being Burgundy Mixture, which is composed of carbonate of soda and copper sulphate; Bordeaux Mixture, made up of copper sulphate and lime; and Keeling's Spraying Mixture (hydrated oxide of copper), which is sent out ready for use without any further mixing beyond adding water. The Food Production Department of the Board of Agriculture are carrying out a vigorous spraying campaign against Potato disease. Allotment holders who have not the means of carrying out their own spraying should communicate with all possible haste with the Food Production Department, 72, Victoria Street, London, S.W., in the hope of arranging for a spraying demonstration. Application should at the same time be made for the useful leaflet on spraying, as it gives much information that is helpful to the uninitiated.

Should Growths be Thinned?—From a glance through our "Answers to Correspondents" columns for the last few weeks it will be seen that this question has been put to us from many sources. In the first place, had the sets been properly sprouted and disbudded as advised in earlier issues, there would be no occasion to thin the growths; but when once the tubers have been planted they ought not to be interfered with. We know this to be a debatable point among growers, and those who desire should try thinning the growths in a few rows and note the result. Another question that is frequently cropping up is, Should the flowers be removed? This does not appeal to us as a very important point, for a singular thing about modern varieties is that they are not so much inclined to flower and produce "Potato balls" as the older varieties. The production of fruits would certainly be at the expense of tubers, so that where practicable the removal of flowers should be carried out to assist tuberation.

Winter Lettuce, Peas and Runner Beans.—A practice we have not seen followed elsewhere appears to be in vogue with some allotment holders in Bedfordshire. Early Peas and Scarlet Runners are sown between rows of winter Lettuce. Of course, the Runner Beans are somewhat of a speculative crop, because, being sown so early, they sometimes get killed by frost in spite of the protection afforded by the foliage of the Lettuce. An early yield of the Broad Bean would, we should have thought, been a better investment—certainly a safer one. However, we noticed a crop of Peas and Runner Beans recently which had not been harmed by May frosts this year, while the bulk of the Lettuce had been cleared, thus leaving the plot to the legumes. An early sowing of Dwarf French Beans might be hazarded under similar conditions, but this vegetable does not find great favour with the average cottager or allotment holder.

The Hard Winter and Garden Pests.—It is often supposed that a hard winter is followed by a marked immunity from insect vermin, a view which we have never held. The current season affords an instance, proving the fallacy of such a supposition, for as many pests we have never had within memory. Similar reports come from other places. Apple and Plum trees (even the hedgerows) are stripped by caterpillars to an extent seldom before seen. Wheat is badly attacked by "bot." Early Cauliflowers and Cabbages are suffering from an epidemic of root maggot, whole plantations being destroyed. Chafer grubs are unusually abundant and the wireworm prospers like the wicked. The sawfly promises to be more destructive than usual, and American Gooseberry mildew has broken out in several private gardens where such a thing has never before been seen, and that in a district peculiarly free of that disease. Insectivorous birds are sooner killed by prolonged frost than "germs," and this season they appear to be scarcer than usual, especially robins and thrushes.

Seed Wheat of the 1917 Crop.—In view of the importance of providing seed Wheat for next year's harvest, the Government propose to acquire pure stocks of certain of the less plentiful varieties of autumn Wheats. Crops in adequate quantity found after inspection to be suitable for seed will be purchased at a substantial premium above the milling price. Farmers with pure crops of not less than 20 acres of the following varieties, viz., Wilhelmina, Victor, Little Joss, and Browick, are requested to communicate at once with the Director General, Food Production Department, 72, Victoria Street, London, S.W.1. Details are not at present desired of other more plentiful varieties, of which it is expected adequate supplies will be available. In writing to the Department the correspondent should state his name and address, the variety of Wheat, the area sown and the location of the crop.

Prices of Sulphate of Ammonia.—The attention of manure mixers, agricultural merchants, co-operative societies and farmers is drawn to the advantages to be obtained from ordering sulphate of ammonia *at once*. Prices have been arranged with the manufacturers for the season ending May 31, 1918, in such a way as to give an advantage of £1 per ton to those who purchase before the end of September. Dealers and others having good dry storage accommodation should take advantage of this offer. The net cash retail prices of sulphate of ammonia to consumers, in quantities under two tons, for delivery in Great Britain by dealers *ex* store or by makers *ex* works, shall not exceed the following:

	Quantities of 28lb. and less than 1cwt.	*1cwt. and less than 2cwt.*	*2 cwt. and less than 1 ton.*	*1 ton and less than 2 tons.*
	Per cwt.	*Per cwt.*	*Per cwt.*	*Per ton.*
June 1, 1917, to Dec. 31, 1917 ...	20s.	18s.	17s.	£16 10 0
Jan. 1, 1918, to May 31, 1918 ...	21s.	19s.	18s.	£17 5 0

Those who are unable to obtain supplies from local works should apply to the Sulphate of Ammonia Distribution Committee, Food Production Department, 72, Victoria Street, London, S.W.1.

Mint.—This is one of the most serviceable herbs of the garden, though often indifferently cultivated, particularly by amateurs and cottagers. Too frequently new beds are made from old roots earlier in the year. A far better way is to lift an old-established bed and carefully detach the single growths which now are emitting root fibres at their bases. Such growths dibbled or planted a foot apart in rows 15 inches asunder in well-cultivated ground make excellent plants, and where Mint is dried for winter use affords the best of material for that purpose.

A Firm, Dry Manure Heap.—The loss of nitrogen in a moist manure heap has been found to be double that in a heap kept dry. The use of a pump for supplying extra liquid seems, therefore, unwise, and the oft-tendered advice for a covering of some kind has been proved quite sound, and this, too, when no loss from drainage is visible. This concerns not only cover, which is perhaps out of reach of many, but also to a considerable extent on keeping a firm, dry heap—fresh evidence against the wasteful practice of turning, now recognised, and any unnecessary moving or disturbance of the heap. Experiment on these two cardinal points combined actually shows that the loss in the heap after three months may be reduced to nil as regards nitrogen, and to only 4 per cent. of dry matter. This is very satisfactory intelligence. A policy of "masterly inactivity" seems to be the best one.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

Broad Bean Tops.—This is a dish I have looked forward to every year since I can remember. It was also a favourite dish of my father's. You must get the tops before the fly gets on them, and add butter and pepper.—E. H. WOOD, *Ludlow.* [We have found the fresh young tops of Broad Beans quite delicious. They are by far the best of the many alleged substitutes for vegetables we have tried.—ED.]

"That Hedge."—In THE GARDEN of June 16, page 228, "Hurstcot" again seeks to limit my imagination to his own restricted range! He draws a piteous picture of a poor neglected hedge of some *eight* kinds only of plants, and writes: "The composition of this hedge was up to anything 'Anne Amateur' ever imagined." (Oh! ye gods and little fishes!) He also remarks: "It would have pleased 'Anne Amateur.'" I certainly should *not* plant a hedge so composed between a house and roadway with the idea of its giving "seclusion from the roadway," to say nothing of its utter unsuitability for such a position. "Hurstcot" further continues: "There was no predecessor of 'Anne Amateur'" at the planting of the hedges of Whittinghame and Tyninghame. Let him not make too sure of this! *My* imagination can conceive of more than *one* type of hedge. I should not plant a "hedge of sorts" in conjunction with "extensive and ancient domains," of "architectural designs and dimensions"; neither does my "hedge of sorts" bound a dusty highway, but divides a two-acre orchard from miles of open country with never a house in sight, though hidden in a hollow some two miles away there is a farm known as "World's End," and Blackbird Bungalow is beyond even this! It would be extremely interesting (and doubtless *most* instructive) to know how "Hurstcot" would construct the hedge he very vaguely indicates "the fence, in line with Nature," which will "contribute to the spiritual impression" of the garden. I here challenge him to give a definite practical description of it.—ANNE AMATEUR.

A Remedy for Slugs.—I fully agree with Mr. E. Beckett in "Notes of the Week," issue June 9, in his reference to slugs. Many years ago I was much troubled with slugs eating the tender leaves of Delphiniums as they commenced to grow, and to prevent loss from this cause used dry ashes rather freely. They answered the purpose. Since that time I have made extensive use of ashes and fine cinders against slugs in various ways, especially so in the case of Carrots. I sow the ashes broadcast, thinly, several times while the Carrots are small, and have not lost many—only a few round the edge of the bed; while other people in the district who rely on soot often have to sow seeds a second time. I have used fine ashes and sand, mixed, for placing next to the stalks of any particular rows of Celery as the ordinary soil was heaped up, and the stalks were never marred by the slugs; but where these ingredients were not employed, the Celery was eaten.—G. GARNER.

—— Get some fresh burnt lime, allow it to slake in a dry outhouse, or, if wanted immediately, pour water on it until it breaks up into a dry powder. Dust it lightly in the evenings and mornings in the places frequented by slugs and it will kill all it touches. It is best to do it when the foliage is dry. A clear solution of lime will banish worms from pots.—E. A. W.

Illicium religiosum.—Mrs. C. W. Earle does well to draw attention to the charms of this fragrant

THE FRAGRANT ILLICIUM RELIGIOSUM.

shrub, issue June 16, page 225. In Devon, Cornwall and the South of Ireland it succeeds in the open and usually flowers in May, but in other southern counties it should be given the protection of a wall. The leaves, stems and wood have a delightful and aromatic odour. At one time it was thought to be the Star Anise of the Japanese and Chinese, but Mrs. Earle will be a little disappointed to learn that that tree is really quite a distinct species now known as I. verum. However, it is a delightful subject and well worth trying on a wall.—WAYLAND.

Cold Turnips.—Many thanks to Mr. F. Herbert Chapman for his cold Turnip salad. On reading his letter I murmured softly, "Let the righteous smite me friendly, but let not his precious balms break my head." I have used Turnips in mixed salads of cold cooked vegetables, but not alone, as Mr. Chapman describes; but will certainly try them at an early opportunity.—ANNE AMATEUR.

Rosa Moyesii in Scotland.—Rosa Moyesii is proving highly satisfactory in Scotland, and I have reports of it of a favourable nature from different districts. Some gardens near the sea, specially favoured, are quite suitable, but no more so than others where the winter conditions are very severe and try to the utmost any plant of a doubtful kind. R. Moyesii has now been introduced into a considerable number of Scottish gardens. From all I have any knowledge of, the verdict is favourable, and in those I have seen, the plants thrive and flower exceedingly well.—S. ARNOTT.

Saving Seed of Reseda alba.—When referring to this imposing annual in the columns of THE GARDEN a year or two ago, I mentioned that none of the seedsmen known to me included it in their lists, so that those possessing it were obliged to save their own seed, and those desiring to possess it must needs depend upon a more fortunate friend. At that time an Indian reader of THE GARDEN kindly sent me a supply of seed. I find that seed can readily be saved by growing on a plant or two in pots or seed pans. If you, Mr. Editor, will forward me the names and addresses of the first three correspondents who send to you for a pinch of the seed of this white Mignonette, I will be glad to supply them gratis—CALEDONIA. [With pleasure.—ED.]

THE BEAUTIFUL ROSA MOYESII. *(Natural size.)*

A Simple Remedy for Green Fly.—In your issue of June 9, page 207, under the heading of "Unreliable Advice," paraffin is recommended for green fly on Rose bushes. We have found a simple and efficient remedy for this aphis is made by slicing a pound of best tallow Crown soap and boiling it in a gallon of water, leaving it till cold, when it forms a thick white jelly; then get water at 90° temperature and mix it with about 10 gallons of water. It should be quite 80° when applied. One or two applications in a season will clear off all aphis from Roses and do no harm. Apply late in the evening.—E. A. W.

Undesirable Experiments with Untried Food.—I think someone recommended the rhizomes of Bracken. I do not know whether boiling removes the poisonous property, but when raw their use is fatal to cattle. A farmer living in this county recently lost four or five bullocks from eating the roots of this Fern when ploughed up. A veterinary surgeon certified the cause of death.—E. A. WHITE.

The Mole-Eating-Wireworm Delusion.—It is surprising how large a number of people believe the wireworm to be one of the chief foods of the mole, whereas it is anything but that. Some years ago, dealing with a soil infested by both—the mole a general nuisance, the wireworm a much to be dreaded pest—I determined to put the matter to a test. Catching some moles alive and putting them into captivity, they were kept without food for some hours, when a few dozen wireworms—five dozen, I believe, by actual count—were introduced and mingled with the soil of their little run. Darkened and left severely alone for another spell of hours, the soil was then taken out and the wireworms carefully counted, when it was found that not one was missing. Wishing to make sure that the temporary prison had not taken away the appetites of the moles, some earthworms were caught and introduced; but these had hardly reached the soil when they were pounced upon, cleansed of all soil matter internally as well as externally by being repeatedly and cleverly passed through the claws of the right fore-foot while held in position with the left, and, rendered as clean as a freshly cut rump steak, were devoured instantly. The business-like attitude of the moles—their mode of attack and method of procedure—showed them to be no strangers to the work. The experiments demonstrated all too clearly, however, the food of their choice, and was incidentally their undoing, since I decided at once that moles were useless for destroying wireworms. As an object-lesson the experiment was of no little value, while the cleanly habits of the mole in preparing its own food was such that I shall never forget.—E. H. JENKINS.

Brussels Sprouts.—I was pleased to read Mr. E. H. Jenkins' note on the planting of Brussels Sprouts, page 209, issue June 9, in which he "hammered in" the warning. I would like to ask Mr. Jenkins or any other contributors whether they have had good experience of raising plants of Brussels Sprouts in the autumn for the production of the earliest produce the following autumn, and, if so, with what result? I have been assured that many cultivators who grow mainly for market do so raise their earliest batch of plants, with really good results. Personally, I have not so grown the plants, but always raised the first batch under glass at the end of January or early in February. But as so many cottagers and amateurs do not possess any glass for such a purpose, the autumn raising—I believe in October—of the plants, especially in these times, would be very convenient.—G. GARNER.

Apple Lane's Prince Albert.—In this district this Apple is regarded as an alternate year cropper. Seldom indeed do we see a crop two years in succession on the same trees, no matter what the character of the soil may be. I find this Apple requires more manurial support than any other to keep the trees healthy in foliage and swell the fruit to its full size. The Apple when well grown is a great favourite. I think perhaps the most profitable method of training the trees is as half-standards. The natural semi-drooping habit of growth is all in favour of this system. To do this Apple justice the fruit should be severely thinned, or there is likely to be many "scrumps."—E. MOLYNEUX, *Swanmore, Hants.*

Well-Grown Vines.—The illustration represents two vineries, early and late, with six Vines in each. Each Vine contains from four to six rods. There are nine varieties, as follows: Two of Black Hamburgh, two of Muscat of Alexandria, two of Frontignan, with one each of Foster's Seedling, Golden Champion, Alicante, Gros Colman, Mrs. Pince and Lady Downe's Seedling. As near as I can find out, they have been planted about forty years and at times have been badly neglected and heavily cropped; so when I took charge of them I found a great deal of shanking among them. I generally apply a good dressing of rich farmyard manure in winter after cleaning down the houses. Two or three waterings of weak liquid manure are given and a dressing of Thompson's Vine Manure. They now seem to have taken a new lease of life.—P. H.

MAKING A SUCCESS OF MIXED VINERIES.

Stock-flowered Larkspurs Dying Off.—The Stock-flowered Larkspurs, especially the rosy scarlet and mauve varieties, are objects of great beauty; but for some years past, as far as my experience and observation goes, a large proportion of them die off annually, irrespective of the character of the season. The symptoms are similar to those of the Aster disease. I wonder whether any scientific reason has been discovered for this high rate of mortality. The plant is usually treated as a half-hardy annual, in Scotland at any rate. Perhaps cooler treatment would abate the evil. Possibly some of the other readers of THE GARDEN may be able to throw light on the subject.—CALEDONIA.

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WELL-RIPENED WOOD

IS IT NECESSARY FOR THE PRODUCTION OF FINE CROPS?

ON no other subject are writers on gardening matters so entirely unanimous as on the insistence of well-ripened wood if fine crops are to be expected the following season. I fear that too many of us have accepted this theory without giving the subject that close personal study which is necessary if we are to arrive at an entirely clear understanding of this important matter.

I confess to having been one of those who for years blindly followed this belief, but latterly I have had serious doubts as to the soundness of these deductions, and my experience of the current season makes me pretty well convinced that there is much less in the "well-ripened wood" theory than most people will admit. Last year (1916) was, without a doubt, the coldest, wettest and most sunless year within living memory, and yet, looking round the garden, we find everything practically smothered in bloom. This is a very late and cold upland district, so that we have much less chance of securing well-ripened wood than is possible in more favoured localities. For all that, we have never before had such a wealth of bloom on fruit trees, flowering shrubs (with the exception of Rhododendrons), and also on all the spring flowers. In particular Apples, Pears and Cherries are simply smothered with flowers, while even Plums, which never do much here, showed a fair amount of bloom. Hawthorn, Ribes, Gean, Laburnum, Lilac, Whin, Broom, &c., are very fine indeed; and as I write (June 9) Apples are still in full flower, which must sound strange to my Southern readers.

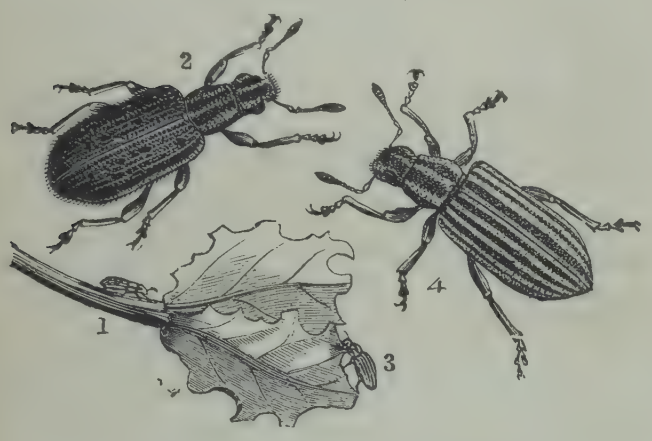
Another point that considerably shakes one's confidence in the "well-ripened wood" theory is the fact that last autumn we obtained by far the finest Chrysanthemums we have ever had, and yet they received exactly the same treatment as in former years. The blooms were larger, better formed, richer in colour, and gave no trouble with damping, and yet it was impossible that the wood could be anything like (as, indeed, it was not) ripened, as we understand the term. I would greatly like to hear the opinions of others on this subject, and to quite master the reason why, after a particularly bad season, we are experiencing such an abundance of bloom. It is, of course, too early for me to say how most of the fruit crops have set, as so many of the trees are still in bloom. Gooseberries are a heavy crop, I notice, and so are Currants, while Strawberries are smothered in bloom, and the earliest appear to be setting quite well.

Preston House Gardens, Linlithgow. C. BLAIR.

BEWARE OF THESE INSECTS

THE spring of 1917 will be remembered for the hordes of pests among fruit and vegetable crops. The ravages of the Pea and Bean weevils, the winter moth on fruit trees, and the Turnip flea or beetle have become so serious in some parts of the country as to almost ruin the crops.

The Pea and Bean Weevils.—These pests feed upon the leaves. When the plants have attained some size this does not so much matter, but while



PEA AND BEAN WEEVILS.

1 *and* 2. *Sitones crinitus, natural size and magnified.*
3 *and* 4. „ *lineatus,* „ „ „

quite young they suffer very much, the weevils only leaving the midribs of the leaves. As these insects generally feed at night, hiding themselves in cracks in the earth during the day, it is by no means easy to kill them, particularly as they resemble the soil so much in colour that they are very difficult to detect when they fall and feign to be dead, as they do at the slightest alarm. Dust the leaves, when wet, with powdered soot or lime, or a mixture of gas-lime, lime, and soot. Spraying with paraffin emulsion, properly diluted, would be very useful, and press the soil firmly round the plants by walking slowly up the rows with one foot on either side. This will prevent the weevils to some extent from coming up out of the ground. Sand, soaked in paraffin, strewn on each side of the rows is also useful. The young plants should be pushed into rapid growth as quickly as possible by watering with liquid manure; or by any other suitable methods of cultivation. The genus to which this insect belongs contains a considerable number of species, several of which attack Peas and Beans, but by far the commonest one is Sitones lineatus, which is about a quarter of an inch in length and of a greyish brown colour, striped longitudinally with yellow. The grubs feed on the roots and are white, legless, and about a quarter of an inch long.

The Celery Fly.—The grubs of this fly injure the leaves of Celery, Parsnips, and other umbelliferous plants by feeding on the interior substance of the leaves. The leaves of these plants towards the end of the summer often have a withered

CELERY FLY.

1. *Celery fly.* 2. *Grub.* 3. *Chrysalis.*

and blighted appearance, which is caused by the action of the grubs working their way between the skins of the leaves. On holding one of the leaves so that the light shines through it, the position of the grub is easily seen. The grubs may be found in the leaves from the middle of June until the beginning of December. If the attack is noticed when the leaves are quite young, a firm pinch, but not hard enough to injure the leaf, will kill the grub. Later on, when the injury is more extensive, the entire leaf had better be cut away and burnt, as it is of little use then and will only decay before the others. There is more than one brood of this insect, so that it is most desirable to prevent the grubs of the first brood from undergoing their transformations. No insecticides have been found of any use in killing the grubs, but spraying or syringing with some soapy insecticide when the flies are wanting to lay their eggs is useful in preventing them from doing so. The difficulty is to know when to make the application, for the flies may be found from the beginning of June until the end of July. When full grown the grubs bury themselves in the ground and become chrysalides. After the crop has been taken off, the upper part of the soil should be buried as deeply as possible, so as to render it impossible for the flies to reach the surface when they leave their chrysalides. Every bit of the crop that is left should be burnt. The fly is a pretty little brown insect with brilliant green eyes; it measures nearly half an inch across the wings, which are clouded with yellowish brown markings.

The Winter Moth.—The caterpillars of this moth, and some nearly allied species, are among the most destructive pests to the leaves and flowers of Apple, Cherry, Damson, Pear and Plum trees, and Nut bushes. They attack the young leaves and flowers as soon as the buds begin to open, so that at times after a severe visitation the trees appear to be scorched by fire. There are fortunately various useful methods for keeping these insects in check, perhaps the most efficient being that which prevents the females from reaching the buds to lay their eggs; the females are wingless, or have such very rudimentary wings that they are perfectly useless as organs of flight, and as the chrysalides are formed in the ground the females have to crawl up the stems before they can reach their destination. Therefore the application of sticky bands, which the insects cannot pass over to the stems of the trees, is a most effectual protection. Whatever sticky sub-

THE WINTER MOTHS.
Male and two females.

stance may be used, it is not advisable to apply it to the bark, as it may injure the tree, but a band of common grease-proof paper about 8 inches in width should be fastened round the stem a foot or more from the ground, and on this spread the cart grease or whatever else may be preferred. The bark if at all rough should be scraped smooth below this band, so that the moth may not be able to pass under it, and it should be sufficiently long to lap well over. It is perhaps easier and better, on the whole, if the "smear" be spread on a strip of calico, sacking, &c., of the same width as the paper band, over which it should be tied. These bands should be fastened both at top and bottom. Of the various substances, such as cart grease, tar, soft soap, &c., really good cart grease appears to be the best, on the whole, but it must be renewed as soon as it becomes hard, or so clogged with insects that it is of no further use. Of course, if trees are supported by stakes, or in any other way by which the females might gain access to them, they must be treated in the same way as the stems. These bands should be put into position quite early in October, and be kept in working order until the middle of January. In spite of all precaution, some females may find their way to the buds, some, no doubt, being carried there by the males when pairing is taking place. If this be the case, in the spring, as soon as any injury is noticed, the trees should be sprayed with Paris green or paraffin emulsion, properly diluted. The male winter moth measures about on inch or rather more across the wings when expanded the upper wings being reddish brown or light grey in colour, and marked with fine transverse undulating dark lines; the lower pair are rather paler than the others. The body is slender and of a yellowish grey colour. The female is stout, about half an inch in length, brown or grey in colour, and, as before mentioned, has no proper wings. The full-grown caterpillar is about three-quarters of an inch in length, and is green or yellowish green in colour, with several pale longitudinal lines. It is hatched just as the buds are opening, and is full grown in June. It then drops to the ground, buries itself, and becomes a chrysalis, from which the moth emerges in October, November, or December, and at times in January.

WATERING VEGETABLES

EARLY in the summer of 1915 an article of mine was published in THE GARDEN on "Some Hints on Watering." This article dealt with the watering of flowers to a large extent, for in those days our gardens were full of bright bloom; but now, as the gardens are full of vegetables, a few remarks on watering vegetables may be seasonable. There are a good many old gardeners who are considerably against watering established vegetable crops. They say that it is unnecessary, that it encourages surface root action and leads quickly to disaster. But it need not. Working as I do on a hot soil, I have had some experience in the matter, and although, fortunately, my soil is not a hot sand, I may be able to speak as convincingly as can gardeners working on sand.

I may say that I have found the watering of vegetables during the hottest part of the summer (the last fortnight of July and the first fortnight of August) almost essential. A crop can, it is true, be got without watering, but it is a very poor one; and in this year, of all others, nobody can afford to lose a single plant which will bear food. But we cannot succeed in our aim if our vegetables are burnt up in dry weather; therefore we must water.

It will be remembered that in my previous article I made a strong point of thoroughness in watering, and this point must be reiterated and much more strongly insisted in the present one. I showed that plenty of water was necessary for successful flower gardening; but now we must confess that experiments have proved that water must on no account be stinted in the case of vegetables. Do not water at all if you cannot be thorough; you will do real harm, for you know well enough that the last thing you wish to do is to attract the roots to the surface. So soak the soil well if you water at all.

A question of some importance is when to water. For leaf vegetables, watering in hot sunshine is most dangerous and should never be done. Watering in the early morning or late evening is the best. Culinary Peas and Beans, however, so long as the water is not sprayed over their foliage, can with much benefit be watered, even on the hottest and sunniest days, up to about 11 a.m. (new time).

Foliage watering is, I consider, very useful; it is better, to my mind, to do it in the evening. It is, of course, no good as a means of allaying the plant's thirst, but merely as a means of cleaning and cooling its leaves.

Very hard and very cold water is not good for either flowers or vegetables, but it is much less detrimental to the latter. In these busy days it will not be possible in most cases to soften the water and allow it to warm before it is used, so we shall have to use it fresh.

"What crops most repay watering?" is a question often asked. On this point people think differently, but my opinion is that Peas and Beans repay the labour best of all. After Peas and Beans I think

I should put Cauliflowers, which well repay watering, producing as they do under liberal treatment in this direction large, tender heads for the table. The same may be said of Broccoli. There are some crops which do not well repay watering, but it is necessary to do it to keep them flourishing at all in hot sites. Such crops include Leeks, Celery, Onions, Kohl Rabi, Endive, Lettuces, Spinach and others.

A crop which can be left to itself without watering after the initial stages, even in very hot soils, is the well-known Spinach Beet. Two others to which the same applies are Couve Tronchuda and Celery Cabbage. These are strong growers and capable of resisting all but the very worst drought.

Mulch for Moisture.—Watering should be supplemented by frequent hoeing and mulching, both of vast importance in conserving the water supply. Weeds should be exterminated as soon as they appear, for they use up a lot of valuable water; and a thick layer of friable earth should always be kept round all unmulched crops. As regards mulching, the use of fresh lawn mowings is a favourite expedient, but not very effective, to my mind, as a mulch for vegetables. Leave the mowings to heat up a little, turning them over constantly meanwhile, and when in a semi-rotted condition you will find when you use the material that it conserves moisture far better. If there is any animal manure to spare, use it by all means; old stable manure and moderately fresh cow-manure are both extremely good. But I must again utter a stern word of warning against using road sweepings for mulching. They are not only valueless for the purpose, but actually harmful.

Just a closing word about feeding vegetables. Gentle feeding is, I have proved, extremely advantageous to all vegetable crops, but it is a great mistake to overdo it, especially when, maybe, the soil is already rich in plant food. "Weak and seldom" must be the motto of the would-be plant feeder working on such a soil. In the case of a rather poor soil, the motto may be changed to "weak and often," but never to "strong and often." Liquid made from fresh horse or cow manure and soot, diluted till it has the appearance of very weak tea, is good. Once a week is quite often enough to start with. Feeding must be kept distinct from watering, unless the food is present in a very small quantity, for the dry, hot roots of the crops are easily burnt. Feeding through the mulches is a desirable way of doing the work, and economical as well.

Weetwood, Ecclesall, Sheffield. E. T. ELLIS.

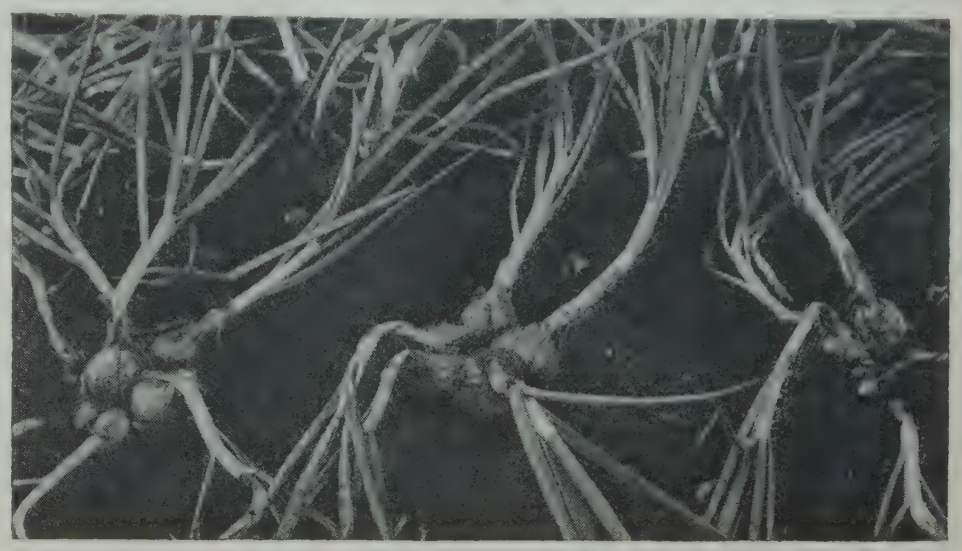
THE HARVEST OF SHALLOTS

CONSIDERABLE difference of opinion appears to prevail regarding the period during which it is proper to lift and store this well-known and useful vegetable; and as the season for this work, as generally recognised, is now with us, a few remarks respecting this matter may assist beginners who are in doubt what to do.

It should be remembered that the period of growth is comparatively short, and for this reason everything that hinders should be removed. In many gardens the quarters devoted to Shallots are not so free from weeds as they should be. It may be that fear of damaging the fast-developing bulbs with any tools that may be used deters inexperienced growers from using the hoe between the plants, and this, after all, is a very good reason for the condition in which the quarters are not seldom to be found. Hand-weeding is a simple and effectual means of keeping the beds free from weeds, and if only the quarters are looked over occasionally, the smallest weeds as they evolve may be dealt with and removed with ease. It is good, nevertheless, to keep the soil well stirred between the rows of plants, and this may be done with a small hand-fork at the time the weeding is done.

In gardens where the Shallots were planted quite early, the new bulbs will mature at an earlier period of the summer than those planted a month or more later. This is what one might reasonably expect to be the case, and it is for this reason that growers are so often recommended to lift their bulbs at the end of June or early in July. The advantage of early planting and early lifting as a consequence is that it enables the grower to make use of the same quarters for some other crop, where the advantage of planting a week or two earlier at this season is something worth striving after.

It is customary in gardens where the bulbs are not lifted until the earlier half of August to assist the ripening process by removing the soil, if any, from the base of the bulbs, so that they may be fully exposed to sunshine and air, by which means the ripening is more speedily and more satisfactorily achieved. This is especially to be desired when the weather is dull and moist and the climatic conditions so much against finishing the Shallots satisfactorily. As many beginners are so well aware, the bulbs are all too frequently planted too deeply, in consequence of which the after-culture cannot possibly be as satisfactory as it should be. In order that the inexperienced grower may know what to do, in Fig. 1 three examples of Shallots that represent bulbs from which the soil has been removed from their base and bulbs that have not been dealt with in this way are shown. The two examples on the left of the illustration show quite clearly the advantage of removing the soil from their base. The bulbs prove to be well developed, and need only to be exposed to sunshine and air to ripen them off, so that they may be lifted before the moist weather is upon us again. The plant on the right of the picture serves to show how many Shallots appear to be embedded before the soil is removed from their base. In this condition they seldom finish well, as the soil round about them keeps the bulbs too moist. Plants treated in this way, as the reader will be quick to appreciate, cannot possibly be so satisfactory as those from which the soil at their base has been removed. For this reason those who have Shallots that have not yet matured should put this advice into practice forthwith.



1.—THE RIPENING OF THE BULBS MAY BE ASSISTED BY BENDING DOWN THE GROWTHS AND REMOVING THE SOIL FROM THE BASE.

So soon as the growth is completed—and this is not in the least difficult to determine if careful observation of the bulbs be made—the stems should be bent down in a careful way. A week to ten days, as a rule, suffices between the bending down of the growths and the actual lifting of the bulbs. Shallots are lifted by simply pulling up the whole plant. After lifting, the bulbs should be laid in an airy, sunny position to dry (see Fig. 2), and to assist the drying process the bulbs should be turned over every other day or so. In wet or moist weather spread the bulbs thinly in shallow boxes or on mats in frames or in the cool greenhouse. When thoroughly ripened, store the bulbs in nets or in shallow boxes, or tie them into ropes, subsequently placing these in a cool, dry place until required. In wet weather the bulbs should be looked over occasionally and badly ripened or decaying specimens removed. The smaller cloves should be selected for planting next season. C.

2.—LAY THE BULBS IN A SUNNY PLACE BEFORE STORING.

YELLOW-FRUITING TOMATOES

HAVING for some time past given prominence to the yellow-fruiting varieties of these, both under glass and in the open garden, the question most frequently asked by visitors is, "Why is it the average gardener pays so little attention to this section?" and I am firmly convinced that, until enlightened, the majority of those who enquire are under the impression that if a fair crop of fruits is to follow, something above the ordinary attention, either in the way of preparation of the soil, manures, or after-treatment, is absolutely necessary. Yet such is not the case, particularly when the plants are to be grown in the open air, for, providing good strong plants are got into summer positions by early June, my experience goes to prove that a crop of ripe fruit is more certain from these than from many of the much-lauded red-fruiting varieties.

During last summer, thanks chiefly to a mistake at the time of sowing, we had a much larger number under cultivation than during any previous season.

Some of these were grown in pots, others against a wall, on a sunny bank, and quite a large number between the crop of early Potatoes; yet, no matter where growing, every plant set an unusually large number of fruits, the first fully ripe specimens being gathered from the sunny bank the third week in July; and although the rains we experienced in August caused many red varieties to burst their skin, a split fruit was unknown among the yellows.

The variety grown was Sutton's Sunbeam, and some idea of the crop may be gathered by a glance at the accompanying illustration [unfortunately not suitable for reproduction—ED.] which shows a plant growing against a south wall. At the time the photograph was taken the plant carried 136 fruits, quite half the number being fully ripe. Needless to add, the majority of these were not of large size, but a more generous system of feeding would have remedied that.

Other single plants from the same sowing carried over sixty fruits, the majority of these being the size of a bantam's egg; while other plants which early in August had the points nipped out and the bunches of fruit thinned rather severely while still small had nearly twenty fruits about the size of an average duck's egg. These, together with the smaller ones, were highly appreciated at table, and no one regretted that instead of six we had nearly three dozen plants.

Quite distinct from the foregoing variety are Golden Nugget, Golden Perfection and Jubilee. These carry fruits of a different shape to those of Sunbeam, the first named being very handsome and often grown by exhibitors. Others having small fruits are highly valued as much for decoration as for the fruits they produce. F. R. CASTLE.

A SELECTION OF VEGETABLE MARROWS

MOORE'S CREAM (white).—A very prolific trailing variety, medium-sized, good flavour, splendid for exhibition, and good for any purpose. It does remarkably well in large pots grown under glass in an intermediate temperature.

Pen-y-byd.—A white trailing variety, very free fruiting, nearly round in shape, quality of the best; good for frame or culture in the open.

Custard, Improved White.—This is extremely ornamental when growing, shows and sets its fruits freely, and when cooked quite young is delicious. It bears very freely under glass, also in the open.

White Bush Variety.—Produces long, shapely fruits; suitable for a limited space in the open.

Green Bush Variety.—This differs from the above in colour only.

Prince Albert.—A true stock of this is the best trailing green long sort I am acquainted with; a fine exhibition and market Marrow.

Sutton's Perfection.—A variety of much merit greatly resembling Pen-y-byd except in colour. It sets its fruits very freely and is a splendid variety for forcing; good for any purpose. E. BECKETT.

CELERY TO PLANT NOW

THIS is useful cooked as a vegetable, for flavouring purposes and eaten in a raw state; scarcely a leaf that is sound need be wasted. In a comparatively small area several hundreds of plants may be grown, but I would like to say now that Celery requires really good cultivation; that is, it must not be undergrown nor overgrown. If undergrown, the sticks are puny and almost worthless, except for flavouring purposes; if overgrown, they are hollow and pithy. The first is the result of lack of a due amount of nourishment during the growing period; the second is the result of over-forcing the growth in too rich and too loose a rooting medium; or it may be caused by subjecting the young plants to a very high bottom-heat. Celery is generally more satisfactory when not subjected to bottom-heat at any stage of its growth. The earliest crops should be ready for planting in the trenches about the first week in June; the main-crop plants will do nicely if planted out towards the end of June.

Selection and Treatment of Young Plants.—Usually too many seeds are sown in a small pot or box, and then the resultant plants are weakened through overcrowding. The majority are not required and are left in the pot. It is important that all the plants be about the same size, and the selection should be made when they are small. A good compost is made up as follows: Fibrous loam, two parts; leaf-soil, one part; well-rotted manure, one part. Now, I would urge cultivators to make up a bed in a cold frame or in a temporary one. First put down a thin layer of ashes and, after watering them, beat them with the back of a clean spade; on the beaten ashes spread a thin layer of rotted manure, and on this a layer of compost 3 inches deep. Transplant the Celery 5 inches apart each way, water and cover with a glass light for a few days; then ventilate, gradually at first, then freely, and by the middle of June remove the covering altogether. In due time the plants can be lifted with practically all the soil and a few ashes adhering to their roots, and with ordinary care they will not be checked in the least.

How to Make the Trenches.—Shallow trenches are better than deep ones, unless there is an extra depth of really good soil. It is wrong to take out the top soil, manure and dig up the cold subsoil and plant the Celery in it, as the best soil is then used for earthing up purposes and the worst soil for growing the plants in. First decide as to whether you will have single or double rows of plants, and so make the trench of suitable width. In either case the plants should be planted about 10 inches apart each way, in single lines or in zigzag rows. Take out the soil to a depth of 1 foot, placing the best on one side; then about 4 inches more, placing that on the opposite side; return some of the good soil after loosening the subsoil, and add the rotted manure; then there will result a trench 9 inches deep—quite deep enough for ordinary purposes. Space the trenches far enough apart to allow of sufficient soil for earthing up in due course. Water and feed judiciously, remove side suckers, and earth up for blanching purposes only, as premature earthing prevents moisture reaching the roots of the plants while they are growing freely. G. G.

HOEING POTATOES AND EARTHING THEM UP

HOEING among Potatoes is as necessary as among other crops of the farm and garden. On light soils nothing more than the ordinary hand hoeing is required; but if, on the other hand, the soil is rough, heavy or caked, the hoeing must partake more of the nature of stocking. Also it is often possible to dig lightly between the rows. Deep hoeing, however, or digging is not advisable until the plants have attained to a fairly large size, say, 4 inches to 6 inches high. The first operation of hoeing should be made immediately the plants are through the soil and when the rows are clearly definable.

The general object of hoeing crops is to destroy weeds; increase the water-holding capacity of the soil, aerate it, admitting air and sunshine; lessen denitrification, and make the soil mellow. With Potatoes a deep, loose mould is essential, and where the soil is of such a nature that this condition is not present, it must be secured by digging or forking between the rows. On heavy clay soils this digging must be done to secure sufficient mould with which to earth up the crop. Two hoeings are generally enough on light soils, and two diggings or one digging and a previous hoeing on heavy soils. In all cases weeds must be kept down.

Earthing up takes place when the plants are about 9 inches high, and is accomplished with the ordinary heavy garden hoe, the Canterbury hoe, or the spade. The operation is quite simple, and, provided the necessary cultivations have been made between the rows, is quite easy. The amount of soil to be drawn up to the plants will depend upon the space between the rows. It is not possible to

CUSTARD MARROWS.

Top variety, Prince Albert; bottom, Improved White.

mould Potatoes satisfactorily when the rows are close together. With the exception of the earlier and smaller sorts, the minimum distance should be 24 inches. Earthing should in no case be unduly delayed, or injury to the root runners may result.

The primary object of earthing is to blanch the tubers. If left unmoulded they become green through exposure to the sun, and are then unwholesome. Some people think that moulding has something to do with preventing disease, but personally I do not think so. At least, it must be very little that disease can be held in check in this way. There is this fact, however, that the better land is cultivated the less liable are crops grown upon it to disease attacks. There seems to be no reason for supposing that a pointed ridge is superior to a flat one in keeping disease spores from the tubers. At present no proof to this effect has been discovered, and the soil is not the main source of infection. On light soil and in a dry summer the ridges should be more flat than pointed, thus securing a better circulation of moisture, and full benefits of every little rainfall are obtained. The sharp-pointed ridges are only of benefit on heavy land in wet weather to help drain off superfluous rain-water. L. M. MARSHALL.

BOTTLING GOOSEBERRIES AND TOMATOES

THE one obstacle which presents itself to many at the present time is the sugar question, but even this need not act as a deterrent, as successful preserving can be done without using an ounce of sugar during the operation. This is a method which I have practised with success, and which I will here record as briefly as possible. The point to be borne in mind is that the secret of preserving by bottling is the sterilisation of the fruit and keeping it perfectly airtight afterwards. Sterilisation is the act of destroying the bacteria which ripen the fruit and eventually cause it to go bad, and this is effected by heating it to a temperature of 160° Fahr.

There are many good forms of preserving bottles now sold, any of which can be easily used, the method of doing so being to pack the bottles with the fruit as closely as possible, fill with cold water to the top, adjust the rubber rings and glass discs carefully, fixing the latter into position by means of the spring catches or screws, stand the bottles in cold water, and bring it to the before-mentioned temperature. When thus heated, remove the bottles from the pan, test the caps to make certain that they are properly airtight, and then stand the bottles in a place free from draught until cold. With the permission of the Editor I shall hope to deal with the various kinds of fruit as the best season arrives for their preserving, the first of such being the Gooseberry, which is generally treated in a green state, and is best bottled when it attains a stage of one-half to three-quarters its full size.

Bottling Green Gooseberries.—The Gooseberry, as is generally known, is one of the most successful fruits to bottle, and almost any variety may be used, though preference should be given to medium-sized varieties, such as Crown Bob and Whinham's Industry. Fortunately, by preserving these in this stage the trees are considerably relieved, and much finer fruit will afterwards result for fresh dessert purposes.

Vegetables.—Though I have had considerable experience in preserving the various kinds of vegetables, I do not regard these in the same light or nearly as essential as fruit, and it is a question if the method generally adopted is really worth the trouble, as in ordinary seasons there is little difficulty in procuring good fresh vegetables of one sort or another throughout the whole year, and my advice is to make strenuous efforts to produce these in much larger quantities in our own country than has hitherto been the case, rather than rely on preserved vegetables, the one exception being Tomatoes.

Tomatoes.—Nothing is easier to bottle nor retains its flavour better than the Tomato, and it has become such a universal favourite that every year finds an increase in the demand for it. Owing to the importations having been stopped, there is undoubtedly, for the time being, at any rate, greater scope for the home grower than ever. Here, again, most varieties are suitable for bottling, but small to medium sized fruits should always be selected. My favourite varieties are Sunrise and its golden sport Golden Sunrise, which are, in my opinion, ideal for the purpose. These should be preserved in exactly the same way as advised for Gooseberries, and though some recommend it, I do not agree with the use of salt as a preservative at the time of bottling. (Mrs.) E. BECKETT.

TULIPA SPRENGERI RUMINATIONS

JUNE 11, 1917.

"The last of all the Romans, fare thee well!"

THANK God, you are the last. Had the author underlined "you" in his manuscript, it would have been equivalent to saying that it is a happy circumstance for those who have Sprengeri in their gardens that the last Tulip of the year has that rich dulled scarlet lining which sets off so perfectly the orange yellow pollen of the adult anthers—truly a great and delightful effort of Nature than which she has few fairer sights in the compass of a single flower.

Those who have watched the slender stem with its long, narrow, shiny, soft green leaves, lengthening week by week; those who have noticed the sharp-pointed, inconspicuous bud slowly but surely preparing to take its turn in the limelight, have been rewarded, and the last of the race has provided a happy memory for its human admirers to retain until the six months' Tulip-time comes round once more. Suppose "last" is underlined. The meaning would be, thank God there is a last. *Ver perpetuum* is a delightful theory, but somehow I do not think I should like it. It would be a dull world if it were so, or man would have to do the impossible and "change his spots."

Thank God, I say, that the very best brands of tinned Peas and bottled Plums are never quite the same as the real Simon Pure. Thank God all flowers are not Perpetual-flowering Carnations. A few perpetuals, say, Roses and Carnations, are all very well, but too many would be a calamity of the first magnitude. The greatest pleasure to be got from flowers is when for a part of the year we only see them in imagination. I am indeed glad that there is a last in the Tulip world and that that last is Sprengeri. JOSEPH JACOB.

PÆONIA ALBIFLORA

THIS I think is the most valuable of the herbaceous species of Pæony, and it is no doubt the best known. It is approached in showiness only by the magnificent P. officinalis, always recognising that for splendour there is nothing to equal the Tree Pæony, one of the finest of all flowers, but which, of course, is not herbaceous. P. albiflora is chiefly known by the double-flowered forms, which are always very fine, and the accompanying illustration is intended to show, if possible, the great beauty of a single-flowered form known as The Bride. It is exceedingly ornamental, and the white flowers are greatly in contrast with the ruddy foliage. It is curious that, however white the flowers may be, the foliage of this species is always ruddy. Its most marked feature—that of producing more than one flower to a stem when not too weak—is shown by the illustration. It is shared by the allied P. Emodi, but this is a rare plant, sufficiently well marked by its one tomentose carpel and green, sometimes bronzy, but not ruddy leaves. P. albiflora is a native of Siberia.

R. IRWIN LYNCH.

Botanic Garden, Cambridge.

PÆONIA ALBIFLORA THE BRIDE.

RIVIERA NOTES

BY EDWARD H. WOODALL.

I AM rather surprised to see no mention of the Burdock (Arctium Lappa), a common woodland or roadside plant that once was considered not only as eatable, but as nutritious and excellent. There must be several readers of THE GARDEN who have old books at hand on vegetables and culinary herbs, and if they turn to them they will see what a good reputation the Burdock had for its culinary properties a hundred years ago. It is still eaten in France, I am told, but I have never come across it on the Mediterranean coast, where so many herbs are gathered for food or for "tisanes." It is apparently the strong young shoots which first spring up that are the most succulent, and if rather too much developed the stems may be peeled before cooking. At any rate, the plant is quite harmless, so anyone may make the experiment, though I trust they will not wait till

the burrs are developed. The smell of the plant is pleasant, and I can quite believe that the flavour would be far superior to that of Nettles. At any rate, I would recommend its trial by lovers of the curious and the economical.

Mention has been made of the Bay (Laurus nobilis), which is so much used for flavouring stews and for imparting an extra good flavour to dried Figs that it goes by the vulgar name of Laurier-sauce, and if enquired for at the market under any other name one would fail to procure it, so far has it fallen from the days when it was known as the Warrior's Laurel or the Laurel of Apollo! Oreodaphne californica, which has a very similar fragrance, is poisonous except in very small quantities, and should never be used for flavouring. It has been used by mistake here.

The long cold and wet of the past winter have left their mark on this coast by the death of the very bold and handsome flowering shrub Montanoa bipinnatifida, which had become a great favourite under the name of the Christmas Daisy Tree. So far I have not heard of any old specimens that have survived. Careful folk will have a young plant in reserve under cover. If not, recourse must be had to seed; but the young plants will not have time to attain to flowering size by next Christmas, I fear. The hardy M. mollissima is nearly as good in some ways, but it flowers in November and so is over before the short days of winter, when M. bipinnatifida made a glorious show until well into January.

Vitis Voineriana has suffered in low and damp situations, while Streptosolen Jamesonii has come through the winter bravely and has flowered as brilliantly as ever. In the neighbourhood of Hyères and Toulon great damage was done by a violent freezing wind the last day of January, and every tender plant was cut to the ground; but east of the Esterel there has been no severe frost that I have heard of, in spite of the sudden fall of snow on the morning of February 1.

The fruit crops suffered severely from a curiously violent storm of rain and wind at Whitsuntide. The temperature is so high that the excess of sap has caused most fruit trees to cast their fruits in the most disappointing way. Quinces in particular have cast every fruit! Cherries have split badly, but those that are left are juicy and extra large in size; and now summer temperatures seem to have set in and Northerners begin to look to the mountains for fresh air and cooler nights.

ROSE MRS. BERTRAM WALKER.

NOTABLE HYBRID TEAS

By the Rev. David R. Williamson.

TEN years ago, among my supreme favourites in this highly attractive class were Viscountess Folkestone, La France, Pharisaër, Le Progrès and Clara Watson; and I am free to confess that in my estimation these fine varieties retain to a large extent their original place. There are, indeed, a considerable number of modern introductions, somewhat more distinctively coloured, that are regarded—or at least described by their raisers—as distinct improvements upon these; but I greatly question if they are equally floriferous or produce on the whole grander artistic or decorative results. It would, I submit, be very unfair to relegate to utter oblivion such Roses as La France, Caroline Testout or Viscountess Folkestone for the sake of other varieties of more recent origination that are less hardy in their constitution and flower less profusely. Another exquisite Rose that was a great favourite with me in "the days that are no more" was Gustave Regis, with

ROSE AUGUSTUS HARTMAN.

long and very graceful deep saffron buds, which, I am glad to find, is widely cultivated still.

That there are many new Hybrid Teas of the very highest merit, and of great capabilities for garden culture and even for effective exhibition purposes, cannot be denied. As their name is legion they cannot all be enumerated or characterised here. Among crimson or maroon varieties we have such splendid representatives as George Dickson, H. V. Machin, Brilliant, Admiral Ward, General Macarthur and J. B. Clark, whose only formidable rivals are found among the Hybrid Perpetuals in Hugh Dickson and Captain Hayward, that seem predestined by their luminous beauty and charming fragrance to endure. Among yellow varieties are such admirable introductions as Mrs. Wemyss Quinn, Iona Herdman, Margaret Dickson Hamill, Sunburst and Mrs. Archie Gray.

Mrs. Herbert Stevens, one of the most refined in its aspect of modern pure white Roses, has been assigned to the Tea section by its distinguished raisers; but, on the other hand, an introduction of larger size, viz., Florence Pemberton, is one of the most conspicuous among the Hybrid Teas. Richly distinctive in their aspect are Gorgeous and Mrs. Hugh Dickson, raised by the eminent

ROSE MARGARET DICKSON HAMILL.

firm at Belmont Nurseries, Belfast. Earl of Warwick, introduced by Messrs. William Paul and Sons of Waltham Cross, is holding its place admirably, alike as an exhibition and garden acquisition; and from what I saw of its capabilities in this garden last year, I think that a rivalling Irish Rose—Mrs. Bertram J. Walker—is likely to do the same. Of the most recent productions of that consummate French rosarian, M. J. Pernet-Ducher, three of the most valuable for garden ornamentation are Viscountess Enfield, Totote Gelos and Willowmere. Some of his finest creations, such as Rayon d'Or, Constance and Mme. Edouard Herriot, have been relegated, like Mr. Arthur W. Paul's distinctive Juliet, to the Austrian Briar section; but they might as well be regarded as half Hybrid Teas. The beautiful nasturtium red Augustus Hartman, raised by Messrs. B. R. Cant and Sons of Colchester, is now flowering here for the first time this year. Among other hybrids that I greatly admire are Antoine Rivoire, Arthur R. Goodwin (a richly coloured Rose), British Queen (of fine texture and pendulous tendency), Cissie Easlea, Countess of Clanwilliam, Harry Kirk, Edgar M. Burnett, Killarney, Mr. George Paul's Lemon Queen, Mme. Abel Chatenay, Mme. Mélanie Soupert, Queen of Fragrance (odorous and free-flowering), Queen Mary, and Mrs. Franklin Dennison, greatly eulogised in The Garden by Mr. Herbert E. Molyneux not long before his death.

SOME NATURALISED ALIENS

By Norman G. Hadden.

SO many natives of other lands have so firmly established themselves among our indigenous flora that it would be quite a loss to us were some of them to be interned as "undesirables," though it must be admitted that self-naturalised aliens are more often unprepossessing plants, if not actually noxious weeds.

The lovely yellow Musk (Mimulus Langsdorffi) has recently received much well-merited praise in the columns of The Garden, for it is certainly one of the most attractive of waterside plants, either in its self yellow or chocolate-blotched variety. In North Devon it is interesting to find the self-coloured form abundant in the River Lyn, while in the Horner (the nearest stream in which

it occurs again) all the plants are of the spotted variety. There is a beautiful colony of Mimulus on the bank of a roadside ditch near Albury in Surrey, which was still a blaze of colour in mid-September last year. Your correspondents have referred to its abundance in Derbyshire, and it is also plentiful—or was in my childhood—in a little backwater of the Dee in Aberdeenshire. Near this colony there grew an even more beautiful and much rarer alien, the blue Lupine from Nootka Sound (Lupinus nootkatensis), which has somehow become naturalised on the gravelly banks of a few Scottish rivers. As it is not easy to cultivate and is rarely seen in gardens, it is all the more surprising to find it established here.

Another of the very few alien species of the Pea tribe having any claim to distinction is Coronilla varia. Being very rare it is little known, yet it is a strikingly beautiful plant when seen established among the native herbage as it is near Bewdley in Worcestershire. The violet-tinted white flowers are lavishly produced above the typically vetch-like foliage; it is a rampant grower and, in cultivation, only suited to the wild garden.

The curiously shaped, rosy purple blooms of the Indian Balsam (Impatiens glandulifera) make a welcome addition to the rich vegetation of a few English river banks. Along the banks of the Taw above Barnstaple this Balsam is as plentiful as the native Willow-herbs and Loosestrife, forming quite a feature of the landscape. There is another species of Balsam which is firmly established in parts of Surrey and other counties, and is valuable owing to its late-flowering habit; this is the Orange Balsam (I. biflora), a native of North America. It grows strongly in damp situations and is gradually spreading over new districts.

The rather small orange flowers are succeeded by wonderful azure blue seeds, which are shot violently into the air, after the customary habit of Balsams. If any plants of this species are being collected for naturalisation in wild gardens, care should be taken to see that they are free from the rust (Puccinia argentata) which not infrequently attacks them. Infected plants will not flower, and the foliage soon shrivels up, having become covered with the rusty brown spores of the fungus.

Another riverside alien is the Soapwort (Saponaria officinalis), now abundant in many parts of the country, and far more beautiful than its double form so often seen in cottage gardens. Both forms are equally tiresome land-grabbers and soil-robbers. But of all land-grabbing aliens surely none can vie with the Winter Heliotrope (Petasites fragrans). It is even more rapacious than our native Coltsfoot, but as it flourishes in the poorest soil and clothes waste land with its handsome foliage, it is certainly welcome *outside* the garden. The fragrant flowers, like Butter Bur in appearance, are freely borne in the depth of winter, especially in warm districts like South Devon, where the plant is abundant.

Several foreign Geraniums have established themselves in English copses and waysides, the prettiest being G. striatum, whose dainty white flowers with pale mauve veinings are very charming, if not showy.

Though stray plants of the Evening Primrose (Œnothera biennis) are frequent on waste land, it is seldom that one can see them growing in hundreds among the Foxgloves, looking as completely at home as any native. They give a delightful bit of colour to parts of the railway banks on the Lynton-Barnstaple line and are a source of much surprise and admiration to visitors.

(To be continued.)

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Leeks.—The early plants in trenches, where they were well attended to as regards water at the roots and nightly sprinklings overhead, have made much progress. As growth proceeds, draw up the cardboard collars, which gives length to the stems, and add more fine soil. Put out a good batch of plants with a long dibber on flat ground, adding sufficient soil to cover the roots and allowing the hole to be gradually filled in. This batch will provide a capital late crop till April.

Celery.—Put out the later batches in single, double, or treble rows, as convenience allows. When the plants in the prepared beds are 4 inches high, they should be put out at once, as they receive less check by removal than when they are larger. Water freely this batch and all other plantings during dry weather. Much of the badly grown Celery—hollow stems—is traceable to want of water during the growing period. The early batch in frames should be liberally supplied with liquid manure to increase the bulk.

Endive.—Sow batches frequently to maintain a regular supply. A single row on the ridge of Celery trenches is an economical method of dealing with this salad plant.

Carrots are growing quite satisfactorily. Early thinning should be practised, as this induces a robust growth. Stir the soil between the rows frequently.

Potatoes.—In many instances the plants are coming up irregularly, especially in late batches. This is generally found in home-saved seed. Much of this defect is traceable to the seed being subjected to a low temperature during the winter. Certainly the seed that was "boxed" under genial conditions previous to planting has a much superior appearance, the plants growing vigorously, with no blanks. Keep the hoe going freely among the plants in stiff soil, and give weakly growing plants a sprinkling of soot previous to earthing.

French Beans.—Sow a batch for late use, thin the early plants where too thick, mulch the surface on each side of the rows, and water freely.

Broccoli.—Put out the plants as fast as they are ready, well watering them in to start root action.

Radishes.—Sow often in small batches, first well watering the soil. Shade for a few days afterwards until the plants show through the ground.

Vegetables Under Glass.

Tomatoes.—Never before have Tomatoes been so much appreciated as at this season, owing to the scarcity of other vegetables. The yellow-fruited varieties have grown more in favour as their qualities have become better known. Plants swelling their fruits should be freely supplied with liquid stimulants. Later batches of plants should be restricted to single stems, removing all lateral growth.

Peas growing in boxes and pots, now removed to the open, are giving pods freely. The plants in boxes have a much better appearance than those in pots, owing perhaps to the greater body of soil available for the roots.

Vegetable Marrows started early in frames over a gentle hotbed have given good crops, and will continue to do so for a long time if the frames are removed, giving the plants free exposure, and well supplying them with water.

The Hardy Fruit Garden.

Gooseberries are carrying enormous crops. The old Crown Bob has again maintained its reputation for freedom of fruiting and vigorous growth in heavy soil. In some cases red spider has attacked batches of bushes of Whinham's Industry. Heavy soakings of water should be given to the soil, with vigorous syringings with Quassia extract to kill the pest, or the trees will be weakened for the future besides checking the swelling and ripening of the present crop.

Pears generally are carrying a heavy crop of fruits. Early thinning is imperative to obtain the finest fruits later on, in addition to giving copious supplies of water to the roots.

Figs on walls, where severely thinned when pruning, are giving good crops, which proves the advantage of thin growth.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Beet.—The latest sowing may now be made of a coarse-growing variety, which, sown so late, has not time to develop its natural coarseness. This usually gives a large crop of well-coloured roots. The earlier batch sown—a few seeds at proper intervals—should now be thinned to one or two plants, the ground dressed with superphosphate of lime, and then be deeply stirred.

Endive.—Sow for early winter use, treating similarly to Lettuces, though Endive thrives in soil of a much poorer nature than Lettuces. Batavian is a reliable variety that blanches very easily.

Broad Beans.—Keep pinching off the tops of plants which are well set with pods, and continue to bank up soil against each side of the rows to steady the plants. The earliest crop (under glass) will probably yield a quota of mature pods, which should not be destroyed, but preserved for the ripened Beans to be eaten in winter and spring.

Seakale should now be pushing freely, but the crowns will be only small unless such a manure as sulphate of ammonia, dried blood, or cleanings of the poultry-house, is lavishly applied as a surface-dressing. Meanwhile, see that the soil is deeply stirred until the foliage becomes too large to admit the hoe. The plants rooted so badly last year that I had to use old crowns this year to make up the needed quantity. These are apt to run to flower, and a look-out must be kept so as to nip off the flower-stems at an early stage.

The Fruit Garden.

Wall Trees.—I make it a practice to remove all superfluous growths about this date. Some allow them to remain longer, but the foliage becomes too crowded after this, and though secondary growths are formed they are not formidable. A very little time is occupied in rubbing them off while still small, leaving none but early-formed leaves to carry on the functions for which they are adapted.

Strawberries.—Royal Sovereign and Kentish Hero will now be ripening. Fruits of both are peculiarly subject to rot in damp weather—that is, large fruits—and it is almost necessary to pick these under such circumstances before perfect ripeness, keeping the fruits for a day before using them. Early runners should be sought for and prepared for forcing purposes as soon as possible. It is much better to gather the runners together in a limited number of spaces between rows than to have them scattered all over the beds. In watering alone the method entails a considerable saving of time, and it reduces to the minimum the chances of missing any.

Pot Plants.

Chrysanthemums.—Bush plants are now growing freely and, if not already staked, should be seen to at once. Spread the stakes wider apart than they need be when the plants are housed, in order that the growths may be perfectly exposed through the summer and autumn. Any weakly shoots may be removed where there are enough without them to furnish the plants. They only enfeeble the plants and never produce flowers that satisfy the grower. More water at the roots will be needed, but careful watering, especially if the weather is not warm, is important. Dust the points of the growths with tobacco powder when aphis is observed.

Cyclamens.—The last shift will have been given. In Scotland I find it is of no use to grow these anywhere save in a warm structure. They must be shaded, carefully watered, and from time to time vaporised to make sure that thrips do not gain a footing. Old plants are not so liable to attack, but generally similar treatment suits these, and if repotted in May new leaves will now be pushing. Meanwhile, comparatively little water at the roots will be required.

Carnations.—The staking of this year's plants will now occupy attention, as, once the shoots get away from the perpendicular through neglect, it is impossible to make them decently upright afterwards. It is a custom in some Scottish gardens to shade these during the summer months. I have never found this to be necessary, but the structure in which they are summered is little better than a glass shed, which is cooler than in the open, as a rule. My observation leads me to believe that shading is attended by a weakened growth and small and few flowers.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

A COLUMN FOR THE CURIOUS

GRAFTING AND SEED.—Please allow me to say how much I appreciate the information given by "Hurstcot" on the angular question. I am very glad to see where I was on the wrong path, and to be given a glimpse of the right one. The information was all the more helpful that it answered principles rather than details. If I may trespass yet again on the kindness of "Hurstcot," I should be glad if he would explain the significance of grafting and pruning. Seeds, crushed or otherwise prepared by man, serve for food; but the "soft envelope" is prepared by Nature herself for the delight of his eyes, and becomes a "fruit." How and where does the work and responsibility of man come in?—L. A. LOUDEN.

[We have referred this enquiry to "Hurstcot," who replies as follows: "This query as to grafting, pruning and seed is of great interest, both as historic and economic. In geologic evolution a 'herb-bearing seed' was finally arrived at as the proper provision for man occupying the earth. Seed is the essential of reproduction; all variations from seed are secondary and inferior. The language as to seed in ancient Hebrew is not that of to-day. Three—always a symbolic number—forms of vegetation went to nutriment of the animal—grass and plants whose utility is in their foliage; herbs with utility in their seed; fruit with utility in their fruit envelope. Ferns are chiefly survivals from a previous creation without animal nutriment in their leaves. Cattle will not eat Bracken, and its human use as Spinach, advocated of late, has met with little approval. Wheat and Maize are familiar examples of the seed-bearing herb. It is indicated that fruit has the primary seed, and is subject, therefore, to the essential law of seed reproduction. In human history, propagation of any plant by methods other than seed has but a minor place. Grafting and cuttings were used in remote classic times, but such variations from seed reproduction on any extensive scale are but of modern times, and even yet only incidental to high civilisation. The object of these variations in reproduction is rapid production. There is no demand for trees capable of enduring centuries. Trees produced by man must be adapted to his own uncertain life, and thus capable of the greatest yield in the shortest time. Even in forest trees it is seldom more is contemplated than the next generation. All variations from natural law have a penalty, more or less. Grafting and pruning gain at the expense of shortening the life of the tree and making it susceptible to disease and decay. In a future age, when human life will be no longer limited by a doubtful threescore and ten average, trees of centuries duration will be demanded with immunity from disease. Grafting and other variations from seed will then be obsolete, save experimentally. This has worked out in recent horticulture. Leading seedsmen of to-day—Suttons, for instance—have built their success upon advocacy of the original principles of Genesis i. They hold that for most garden subjects seed production has an undeniable advantage, and they are in line with true progress. Cuttings and layers are less the vogue to-day than they were, say, thirty years ago. In ancient times fruit trees were protected in war, as the tree then grown from the seed in itself was long in yielding. We have a pleasing instance of human art undoing the German barbarity of to-day—which ignored the ancient protection of the fruit tree—by regrafting the stumps of the cut-down orchard trees. It is a gain and a mitigation of war's severity. Man is limited in his variation from natural law, but he is responsible for knowledge of the point of divergence. Hybridisation is but elaboration of a complex process always in operation in Nature. Some of our best Apples were produced without human aid—Bramley's Seedling, for instance. But this takes us into vegetable psychology and its sex medium, which must be a further subject."—ED.]

RAMBLING REMARKS ON SUNDRY SUBJECTS

BEANS—THIN SOWING—BEES AND APPLE BLOSSOM—MUSHROOMS.

SEEING a paragraph in a daily paper about Dutch Haricot Beans for winter use, I wrote at once to the Royal Horticultural Society, and received in reply a very disappointing leaflet, for, not being a "Fellow" (though often toasted as a "jolly good" one elsewhere), I cannot get the Beans, and if I could it is apparently too late to sow them this season, so I must hope for better luck next year, and meantime experiment with some White Runners.

I read with great interest Mr. Beckett's remarks and the editorial comments on "thin sowing." Perhaps the general neglect of the "good advice" is because it tells nothing to an amateur. "Sow thinly" may mean anything from 3 inches to a foot. How can one know? I always sort over Pea and Bean seeds on a large tray before sowing; then sow the *best* in rows thinly, and doubtful ones in a patch at the end of the rows ready to lift as small plants to fill gaps or make a small row elsewhere.

I am doing no flower gardening, save annuals for bees; for only one man is now left to run my three acres (with goats, donkeys, and poultry also to attend to), so I fear *weeds* will have an unwonted "innings" this summer. By the way, goats tethered are excellent war-time live lawn-mowers and hedge-trimmers, and also keep weeds down on waste and fallow ground. They simply *dote* on Dock in particular, and do not despise Dandelion nor "greedy Groundsel."

We had here the profusion of fruit blossom noted elsewhere, so hope to "enjoy the kindly fruits of the earth in due season," especially as the bees were busily attending to the fertilising. I never remember to have seen Gooseberry bushes so loaded. I noticed, however, the bees favoured some Apple blossoms more than others. Lane's Prince Albert was full of bees, which may account in part for its regular and profuse crops. The Russet Apple here does not seem to attract them. They take a moderate interest in Gascoyne's Scarlet and my favourite American Mother, and they like Lord Derby very much.

With parrot-like persistency we are counselled continually to use "spent manure from the Mushroom-bed" for this, that and the other. Now, methinks it might safely be conjectured that not more than one per cent. of ordinary gardens *has* a Mushroom house or bed; so in view of the present paper shortage I venture to suggest this irritating phrase be omitted "for the duration of the war," and we others, "the ninety and nine," cease to be tantalised thereby. I intend to run some more Mushroom spawn in my orchard before June is out.

Naturally grown meadow Mushrooms are *so* superior in flavour to those grown in beds! We used to grow Mushrooms along the banked-up Celery rows in days long ago, and often had good results. In view of the high value of Mushrooms as food—[Mushrooms are delicious, but we fear come very low indeed in the scale of foods as providers of tissue-building material.—ED.]—it is well to try to get a crop, by hook or by crook, this coming season. ANNE AMATEUR.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

OXLIP, COWSLIP AND POLYANTHUS (*M. D. C.*).—The difference between the first two named represents the difference between two species of the genus Primula, the Cowslip being known as P. officinalis or P. veris, and the Oxlip as P. elatior. The differences are chiefly botanical, though the Oxlip is a much bolder habited plant and taller. Still stronger growing is the Swiss Oxlip known as P. e. intricata, which has deeper yellow flowers. There is also a variety from the Caucasus known as P. e. amœna, with purple flowers. It would not be correct to "consider a Polyanthus of the typical primrose shade to be the Oxlip," the latter being virtually a giant Cowslip with, in the typical form, pale yellow, horizontal or drooping flowers in umbels or clusters, its varieties, as already indicated, differing in colour. The Polyanthus (P. variabilis) is generally believed to have been derived from a cross between the Primrose (P. vulgaris) and the Cowslip (P. officinalis), though it is not improbable that some of the garden forms of the Oxlip did not also play a part, and if so, the unusual vigour of not a few Polyanthuses might be easily accounted for. It should be easy to find the Oxlip in some form or other in the hardy plant nurseries or gardens in your own district.

DAFFODILS UNSATISFACTORY (*Burton*).—The double white Narcissus Poeticus is very impatient of moving, and even when untouched it sometimes fails to flower, the buds remaining in the sheath and rotting. This has been the case in many places this year, and you may live in hopes of a better show next year if the season suits.

TREATING A WALL (*D. Carruthers*).—If the facts are as you state them and climbers must be had on the wall, the only way of dealing with the plaster is to knock it off. In other words, the lime in such disproportion cannot be got rid of otherwise. We candidly confess, however, that we have never been faced with such an experience, and would like to know how long the plaster has been on and what creepers have been tried. If your enquiry refers to a house wall and the property is not your own, you could not well do what is suggested, and in any case there would be considerable disfigurements. We should like to hear from you again on this matter.

WHERE TO OBTAIN FUCHSIAS (*W. A. C.*).—We think that your best chance to obtain the Fuchsias in question will be to apply to Messrs. H. Cannell and Sons, The Nurseries, Eynsford, Kent. At the same time we do not know the variety Popularity; it may perhaps be a local name. With regard to Avalanche, there are two distinct varieties bearing that name, both of which are old kinds. They each have large double flowers, but in one the corolla is purple and in the other white. In ordering, it will be as well to indicate which of the two you require.

INJURY TO CLARKIAS (*Devon*).—The Clarkia is attacked by eelworms. Probably the soil is infested with them, and we advise you to give it a dressing of lime in the autumn and forbear from planting Clarkias in it for a season.

ROSE GARDEN.

ROSE SHOOTS EATEN THROUGH (*Devon*).—Probably weevils similar to those which attack Raspberries have been damaging the Roses. Shake the bushes at night over a cloth and so endeavour to catch them. Put them into boiling water, or water covered with paraffin.

KITCHEN GARDEN.

WEAK POTATOES ON ALLOTMENTS (*W. W. W.*).—We regret to say that this experience is a common one, although not serious enough to affect the general excellence of Potato crops. It is difficult to give any one specific cause of the trouble. Crops planted in soil first broken up after turf always suffer more or less from wireworm. This year we seem to notice the damage more, many single tubers being attacked by as many as fifty wireworms, so that we may safely conclude that the wireworm is often the culprit, but not always. For instance, if the eye remains intact (and it often does) and the other part of the Potato is fairly sound, there is no reason why its growth should be much, if at all, affected. Then the puzzling problem arises: We find growing side by side in the same soil and under the same conditions two different varieties, one perfectly healthy and robust, and the other sickly. It cannot be the wireworm in this case. What, then, is it? In our opinion the cause is due to the weakness of the seed Potato through its having sprouted the second time, the first sprouting, happening too early through improper storing, having to be rubbed off and the Potato thus called upon to make a second effort to form new sprouts. The lesson in this case would be to save your own seed and store in a cool, airy, frost-proof room, or buy in your seeds in autumn and store them yourself. The best thing you can do now to strengthen the growth of the haulm is to apply a top-dressing of a stimulating artificial Potato manure, such as that sold by Messrs. Voss and Co., horticultural chemists, Millwall, London, with directions how to use, and if rain does not come soon, give a good watering after applying the manure.

TOMATO PLANT FOR INSPECTION (*S. S.*).—It would need a very careful analysis of the soil to ascertain whether the plant was poisoned or not, and even then the fact

might not be apparent. This analysis is more than we can undertake, but we think Dr. Voelcker of 1, Tudor Street, New Bridge Street, London, E.C., might be willing to do so.

CABBAGE-ROOT MAGGOT (*Amateur*).—The Cauliflowers are attacked by the Cabbage-root maggot, which is an extremely troublesome pest. Sprinkling sand moistened with paraffin along the rows has some beneficial effect, but the best plan is to place one of the cut felt discs made by Mr Robinson of Dowgate, Manchester, round the base of such plants or places where the attack is likely to occur. Screening the seed-beds with mustard is also beneficial, as it protects the plants from the fly that lays the eggs from which the grubs hatch. The Tomatoes are damping off. Fresh soil should be used before Tomatoes are again grown, or the soil should be steamed.

MISCELLANEOUS.

PRIMULAS UNSATISFACTORY (*M. E. W.*).—Due to conditions which can only be determined by examination on the spot.

FUNGUS ON LAWN (*W. M.*).—Your fungus appears to be the fairy-ring fungus, which often grows upon and disfigures lawns. Why it should cause dryness of the soil is not very apparent. Try watering the soil where the fungus occurs with Bordeaux or Burgundy mixture, or, failing that, with a weak solution (say, 1 part to 1,000 of copper sulphate. The last may damage the grass somewhat at first.

BUTTERCUPS ON LAWN (*T. B.*).—Sulphuric acid injected into the crowns of the Buttercups on your lawn will kill them. The instrument used for inserting the acid resembles a hollow walking-stick with a pointed end. The acid is placed in a receptacle and the pointed end is inserted into the centre of the weed. By pressing a lever the acid is then set free and passes to the plant. Such instruments can be procured from horticultural sundriesmen. Another way of dealing with such weeds is to place a teaspoonful of table salt in the centre of each weed.

PURCHASING BEES.—I saw in a recent issue of THE GARDEN you have had an enquiry for bees. On the 15th of last month I purchased a stock of bees for my employer, L. G. Wait, Esq., and they are now about to swarm. On the 24th we had another, and they are doing well. They are nearly pure Dutch bees. The man I bought them from had about sixteen stocks, the only bees in the village, as other people's had died out. The address is Mr. O. Knight, Epney, near Stonehouse, Glos. To-day I have been to fetch another stock, which are quite as strong as the other two lots were when bought. I paid 30s. for each stock.—F. NORMAN, *Severnside Fruit Farm, Newnham-on-Severn, Glos.*

HEATING APPARATUS (*C. Q. M. S.*)—So far as the safety of the boiler is concerned, it will be as safe as ever it was and will take no more harm where it now is than it would if it had not been disconnected. The usual way with such things is to draw off the water and let the boiler remain in its setting Detached, however, and more completely drained of its contents, it should be freer from rust, and if slightly raised above ground level would take little or no harm. Bursting, either of the boiler or the pipes, after resetting, in such a case could not ensue, since, the whole being water-charged, expansion through reheating would be gradual throughout the system At the same time it would be well to proceed with caution when the time comes to restart it. You say nothing of the age of the boiler and the kind of stokehole—wet or dry—in which it has been. These are important matters, and have a far greater bearing on the life of a boiler than is generally supposed.

VARIOUS QUESTIONS (*A Roman Reader*).—With the vegetable garden now occupied it is not easy to apply remedies where the ants are in the nature of a plague, though much may be done during the egg-laying season by collecting the eggs and burning them. Shovelled up, anthills and all, and deposited on a rubbish fire, many would be destroyed. Sawdust saturated with petroleum or carbolic acid, the latter for preference, will often drive them away, though they may go elsewhere and start afresh. Boiling water is fatal, and should be persevered with, since they frequently desert places where they are worried continually. We think Roses Goldfinch and Claire Jacquier might suit you. They are of the multiflora set, small-flowered and yellow. A garden Rose budded on the Banksian would take its own form and not that of the stock, whose influence would be in other directions. If a climbing variety is required, a bud of such an one should be inserted, and, if successful, all other growth from the stock, *i.e.*, the Banksian, should thereafter be discouraged. The most fragrant Sweet Peas are those of the grandiflora class, and a good way of obtaining a collection would be to write to Messrs. Sutton and Sons, Reading, England, who offer them in collections or separately.

NAMES OF PLANTS.—*Miss C. C.*—Owing to the intense heat and the flowers being packed dry, they arrived in a very withered condition, making identification difficult. The specimens sent appear to be: 1, double-flowered Ivy-leaved Pelargonium The King; 2, double-flowered Ivy-leaved Pelargonium Galilee; 3, double-flowered Ivy-leaved Pelargonium Mme. Crousse; 4, Tulip Thomas Moore; 5, may be Viola Archie Grant; 6, shrivelled up; 7, cannot find.——*J. E., Pitlochry.*—Primula Cockburniana.——*L. S. Owen.*—1, Polypodium vulgare var. cambricum; 2, Cystopteris fragilis; 3, Aspidium angulare. ——*M. E. W.*—1, Yes, Primula japonica; 1A, the orange scarlet hybrid is Bulleyana Beesiana cross, always variable from seed; 2, specimen not found; 3, impossible to say. ——*J. F. A.*—1 and 2, both varieties of Veronica prostrata; 3, a hybrid of Campanula Waldsteiniana and another species, probably carpatica; 4, Myosotis Stabiana; 5, Campanula collina; 6, Dianthus Waldsteinii; 7, D. inodorus; 8, 9 and 10, garden seedlings, cannot identify.——*M. T.*—Probably Sempervivum species, cannot identify from flowers alone.——*Thalassa.*—Probably Melilotus indica. Kindly send a better specimen.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held on the 19th inst. was characterised by much beauty, interest and variety. Hardy plants were among the more prominent, not least among them a capital collection of flowering shrubs from Slough. Carnations, too, were very beautiful; while the Roses made quite a display alone. Orchids were more than usually prominent, the Miltonias being particularly noteworthy.

FLORAL COMMITTEE.

Present: H. B. May, Esq. (chairman), and Messrs. J. Green, Sydney Morris, R. C. Notcutt, J. W. Barr, G. Reuthe, J. Heal, J. T. Bennett-Poë, R. W. Wallace, R. Hooper Pearson, C. R. Fielder, E. A. Bowles, J. F. Hazelton, C. Dixon, J. Dickson, J. Hudson, W. J. Bean, A. Turner, W. H. Page, W. P. Thomson, W. Howe, T. Stevenson, J. F. McLeod, J. Jennings, J. W. Moorman, C. E. Shea, G. Paul, C. E. Pearson and E. H. Jenkins.

The exhibit of hardy flowering shrubs from Mr. Charles Turner was of more than usual interest, and contained many beautiful subjects, chiefly, however, of the Philadelphuses, or Mock Oranges. The best of these were Virginal (double white), P. hybridus Avalanche, P. h. Lemoinei erecta, P. h. purpureo-maculatus, P. h. Conquête and P. h. Manteau d'Hermine, a small, profusely flowered sort. Spiræa sorbifolia (a most elegant species), Lonicera Heckrottii, L. Hendersonii and L. italica, three rarely seen Honeysuckles, were also noted in an excellent lot.

New Roses from Mr. Walter Easlea, Leigh-on-Sea, contained many charming things, notably President Wilson (H.T., salmon pink), Mrs. Ramon de Escofet (red, shaded orange), Dr. Joseph Lowe (in the way of Mme. Mélanie Soupert, if more golden in the bud state), Mrs. Edith Stanley (creamy white, with rich apricot centre) and Helen Chamberlain (a good yellow-flushed flesh). Eastwood Queen (T.), white, shaded rose, was also noted.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, had a particularly showy group of hardy flowers, in which the pink-flowered Erigeron B. Ladhams was a prominent feature. Pæonies, Heucheras, Spanish Irises, Gaillardias and Lilium Martagon album were among notable things. Verbascums were very showy.

Mr. George Prince, Oxford, showed some very charming Roses, Mrs. Campbell Hall (Tea, white and pink), Molly Sharman Crawford (white), Mrs. Foley Hobbs, Comtesse de Nadaillac and Miss A. de Rothschild (golden) being very good. Queen of the Belgians (white), Diabolo (crimson, semi-double) and Alberic Barbier were good among climbing sorts.

Messrs. J. Cheal and Sons, Crawley, contributed a large collection of herbaceous Pæonies, of which Eugénie Verdier (flesh), Duchesse de Nemours (white) and Boule de Neige were good. Crawley Star and White Star Dahlias were also shown.

Messrs. Paul and Sons, Old Nurseries, Cheshunt, had lovely baskets of Rose Paul's Lemon Pillar, together with well-flowered plants showing habit and freedom; an excellent variety in every way. The tree climbing sorts, Rosa himalaica alba plena and rosea plena, which is said to attain 40 feet high, were also well shown. They are hybrids of Himalaica and Polyantha sorts and have proved quite hardy.

Messrs. W. H. Simpson and Sons, Birmingham, contributed a capital assortment of Snapdragons, Carmine King, Warrior, Golden Beauty, The Fawn, Beacon and Afterglow being among the more distinct.

Mr. H. J. Elwes, Colesborne, showed many interesting things—Orchis foliosa, of which one was very dark flowered; Gerberas in variety, Alstrœmerias, Lilium warleyense, together with Crinums and other plants. Pancratium Macrosteffana and Urceocharis Clibranii were also included in an interesting lot.

Messrs. B. R. Cant and Sons, Colchester, had very fine Roses, Mme. Edouard Herriot, Iona Herdman, Mrs. Peter Blair (soft yellow), Cupid (a lovely single pink pillar sort), Ophelia, Rayon d'Or, Constance, General Macarthur, Margaret Dickson Hamill, and Sallie being among the best in an excellent lot.

Messrs. H. B. May and Sons, Edmonton, showed Gardenias, standard Lantanas, Verbena Miss Willmott, standard Fuchsias and other plants, together with an assortment of hardy Ferns, chiefly Polystichums. Of these P. aculeatum pulcherrimum gracillimum Drueryi was very beautiful, also P. angulare plumosum densum, P. a. p. tenerum Foxæ and others.

Messrs. Allwood Brothers, Hayward's Heath, had a splendid lot of Carnations, Gorgeous being very fine. Champion (scarlet), Wivelsfield White (very fine), Destiny, Mrs. C. W. Ward (cerise), Bishton Wonder and Triumph were other good sorts.

Messrs. William Paul and Sons, Waltham Cross, showed their scarlet climber very finely, also Ophelia, Circe (flesh), Josephine (pink), Queen of Fragrance, Marcella (blush) and Titania (orange). Majestic was also rich in colour.

Pæonies and Delphiniums—both groups finely displayed—were well shown by Messrs. Kelway and Son, Langport. Among Pæonies, Queen of Spain (rose with golden centre), Lady of Langport (pink), E. St. Hill (rose), Queen Alexandra (white) and Bunch of Perfume were among the best. Of Larkspurs, Dusky Monarch, Admiral Cadigan, Mrs. J. Kelway, Zinfandel, Minoru and Warspite (very dark) were among the best in an extensive lot.

Messrs. R. Tucker and Sons, Oxford, had a delightful show of alpines, Campanula Raineri, C. pseudo-Raineri, Astrantia carniolica, Linum arboreum, Campanula Raddeana, C. Kolenatiana, C. garganica villosa. Phyteuma comosum (very charming), Silene Elizabethæ and S. alpestris flore pleno being among the more charming. Allium pedemontanum, Saxifraga cochlearis, Convolvulus nitidus and many alpine Dianthi were nicely shown.

The Roses from Mr. Elisha Hicks, Twyford, were very beautiful. Great stands of such as Joanna Bridge, Red Letter Day, Charles E. Shea (the gold medal Rose of last year), Climbing Hillingdon, Ophelia and Mrs. George Norwood were some in a magnificent display of these flowers. The new Mrs. Elisha Hicks was also in superb form.

Mr. James Douglas, Great Bookham, showed some good Carnations. Ziska (quite a new shade of cinnabar red), Margaret Lennox (yellow ground), Innocence (pink), Hercules (maroon), Dora (orange), Mrs. Robert Gordon (pink) and Renown (yellow-ground scarlet) were among the best.

Messrs. Piper and Co., Bayswater, contributed a group of Clematises, of which Sensation, Duchess of Edinburgh (double white), Mrs. George Jackman (white) and Fairy Queen were good. Cistus laurifolia and Senecio Grayi were noted in the group.

Mr. L. R. Russell, Richmond, had some charming Acers in pots, those of the palmatum set being very beautiful.

Messrs. Frank Cant and Co., Colchester, showed Roses Le Progrès, Sunburst, Gorgeous and other good sorts.

Mr. G. Reuthe, Keston, displayed a collection of Pæonies, together with alpines in variety.

Herbaceous Pæonies, Larkspurs, Roses and other plants were well shown by Messrs. H. Cannell and Sons, Eynsford, Kent. Delphinium Mrs. Robert Cobb (mauve) was particularly good, while many seedling forms were also of much promise. Pæonia Joan of Arc was very fine. Rose Mme. Le Baronne Charles de Gargai is a lovely Rose of yellow and cream and delightfully fragrant. Juliet and Snow Queen were also good.

Mr. J. C. Allgrove, Langley Green, Slough, showed many hardy plants, Trollius Ledebouri (award of merit), Rodgersia æsculifolia, Philadelphus Virginal (very beautiful), Fremontia californica and Magnolia parviflora being good. Clematis angustifolia, Primula Bulleyana rosea and Pæonia lutea were also fine.

Messrs. Stuart Low and Co. showed Carnations and Roses, Mrs. Wemyss Quinn, Mrs. Hugh Dickson and Constance (yellow) being noted.

ORCHIDS.

Messrs. Charlesworth and Co., Hayward's Heath, had a fine show of Miltonias, Odontiodas and Odontoglossums, the first named making a magnificent display. Miltonia Charlesworthii and M. vexillaria Lyoth were the chief varieties. A gold Williams medal was deservedly awarded.

Messrs. Stuart Low and Co. contributed Cattleyas, Sophro-Lælio-Cattleya Orpethena, and Lælio-Cattleya Vesuvius among others.

Messrs. Sander and Sons, St. Albans, had fine specimens of Lælio-Cattleya Gottoiana var. Imperator and L.-C. Canhamiana var. Rex among others.

Messrs. Armstrong and Brown, Tunbridge Wells, contributed a lovely lot of Miltonias and Odontiodas.

FRUIT AND VEGETABLE COMMITTEE.

Present: J. Cheal, Esq. (chairman), the Rev. W. Wilks, and Messrs. J. Jeffries, F. Perkins, E. A. Bunyard, W. H. Divers, W. Poupart, E. Beckett, J. C. Allgrove, A. Bullock, P. C. M. Veitch, Owen Thomas, W. Bates, H. S. Rivers, J. G. Weston, E. Harriss and A. R. Allan.

A collection of Cabbages exhibited by Mr. R. Staward, Panshanger Gardens, Hertford, included fine baskets of Sutton's Harbinger, Sutton's Imperial, Earliest Favourite and Flower of Spring. All were particularly well-hearted specimens.

OBITUARY

LIEUTENANT HARRY L. FOSTER.

KEEN regret will be felt by all horticulturists, and especially those in Kent, at the news of the death in action on June 7 of Lieutenant Harry L. Foster, second son of the late Mr. Charles Foster, who made a great reputation at Reading University. Lieutenant Foster was educated at Reading Collegiate School and at the Wisley Laboratories of the Royal Horticultural Society. In 1913 he was appointed Assistant Horticultural Instructor under the Kent Education Committee, and in that capacity did admirable work until the outbreak of war, when he immediately asked permission to join the Army. Enlisting as a private, he fought bravely in several engagements before being wounded at the great battle of Loos in 1915. At the end of a long convalescence he was recommended for cadet training, and in the early spring of the present year he received his commission. Lieutenant Foster resided for a considerable time in Maidstone and became a popular member of the Church Institute. Although a keen student, first of horticulture and entomology, and subsequently of military science, he was a versatile athlete. He had a singularly engaging personality and was greatly beloved by all who knew him.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.*

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

CONTINUING my notes on green-stuffs, I mention below other suitable greenery, &c., together with their feeding values from the view-point of both albumen and carbohydrates.

Kohl-rabi.—One great advantage possessed by this vegetable lies in its keeping qualities. Both bulbs and leaves can be utilised. Ratio: *Leaves*, 1 to 3½; *bulbs*, 1 to 7½.

Radish Tops.—These can be given as an occasional change.

Artichokes.—Abroad the artichoke has always been widely used as a food for livestock. Its ratio is 1 to 6.

Beetroot.—With so wide a ratio as 1 to 15 beetroot is useful to widen a mash if such is desired.

Carrots.—Here we have a most useful "cold-weather" root. Ratio: *Leaves*, 1 to 3; *root*, 1 to 8.

Mangels.—This root does not stand the frost like turnips or swedes, which necessitates early storing. Mangels should be perfectly ripe before they are used for fowls, and many give them to the birds from February onwards when swedes run short. Prior to preparing mangels, cut off the crowns, which contain harmful matter. Ratio: *Leaves*, 1 to 2¾; *roots*, 1 to 8½.

Potatoes.—These are "spud-less" days, but my notes can be kept for future reference. Potatoes should be washed prior to being boiled in their skins. They should be cooked by themselves, and the water be thrown away. If they are again rinsed in warm water prior to being mashed and added to the soft food, so much the better. Potato haulms are poisonous, and neither potatoes nor peelings should be given *raw*. Peelings should be washed prior to being boiled by themselves, the liquor being thrown away. Ratio, 1 to 10.

Sugar Beet.—Cultivated from seeds the roots can be fed in the winter or left in the ground to provide spring greenery, both greenstuff and roots then being used. Ratio, 1 to 5½.

Swedes.—These come in very handy after about November, and both leaves and roots can be utilised. Ratio: *Leaves*, 1 to 3; *bulbs*, 1 to 5½.

Turnips.—Another useful winter root. Ratio: *Leaves*, 1 to 1½; *bulbs*, 1 to 5.

Parsnips.—Both leaves (1 to 6) and roots (1 to 6½) can be fed to fowls.

Pea Pods.—These are best boiled and passed through a cutting-machine. Ratio, 1 to 4¾.

Bean Pods.—If boiled and run through a cutting-machine, these can be used in the mash in limited quantities. Ratio, 1 to 3½.

Tomatoes.—Any surplus tomatoes can be added to the soft food occasionally; they have not good enough feeding properties to warrant their regular use.

Acorns, &c.—Three foodstuffs that can be used in moderation are acorns, horse chestnuts and beech nuts. Acorns may be said to boast of an albuminoid ratio of about 1 to 15, and horse chestnuts around 1 to 10, from which it will be gleaned that they are rich in carbohydrates, and therefore fattening. Both, however, have a serious drawback in that they contain a large amount of tannin, which prevents our using them as foodstuffs too liberally. They should in consequence be regarded as a subsidiary food, and should never be given as a meal by themselves. Acorn poisoning is noticed where livestock feed too liberally on acorns, due to the effect of the tannin; but as the symptoms are so easily diagnosed, the careful feeder will be able to judge if he is too heavy with this food. Loss of appetite and wasting away denote the presence of poisoning from both acorns and apples. There are many ways of preparing these foods. Many pass them through a bone-cutting machine after removing the husks, and add them to the mash prior to drying it off; while others dry them in the oven, remove the husks, and then grind them up into meal for use in the soft food. Sprouting removes most of the tannin, as does boiling, and I have always found it best to boil thoroughly acorns, horse chestnuts and beech nuts, pass them through the bone-cutting machine, and use them occasionally and in limited quantities in the mash. While these foods are being used, provide plenty of greenery.

Animal Food.—In nine cases out of ten poor egg-returns are due to the absence of animal food from the hens' dietary. Lack of this food entices the layers to eat more and more of ordinary foodstuffs in the hope of obtaining from them the much needed animal albumen. The birds in consequence become overfat and egg-production suffers. There are, of course, many forms of animal matter, the list including meat-meal, fish-meal, meat scraps, fish scraps, greaves, dried blood and green bone. All are very rich in albuminoids, the ratio varying from 1 to ½ to 1 to 1, and necessitating thereby careful use. For a hen in lay the animal food should represent a tenth of the soft food, while 15 per cent. might be given to hens that are "out of profit" to bring them on to lay, when the usual 10 per cent. should be adopted. Albumen derived from animal food is much more valuable than that from cereals or greenery, and too much of the former will seriously affect the kidneys and liver. When the fowls are enjoying free range, the inclusion of animal food in the mash is not necessary *provided* the birds have suitable environment where they can obtain grasshoppers, worms, grubs and insects *ad lib.* For confined fowls and during the winter and such months when grub or natural animal life is unobtainable, such foods must be provided. A supply of animal food can be given daily until the birds are heavy in lay, when thrice weekly will suffice. One is well advised, however, to go by the egg-returns. For hens that are to be marketed after a period of heavy laying, 20 per cent. of the mash can consist of animal food to "force" the eggs desired. Such forcing, however, would be unwise for stock needed later for breeding or other purposes.

Green Cut Bone.—This is one of the best egg-producing animal foods obtainable, and it should be much more popularly used by poultry-keepers. Soft bones should be purchased fresh from the butcher and ground up in a bone-cutting machine, when the prepared food can be given in the mash or separately at midday, being placed before the birds in a trough. On no account use bones of the "splintery" kind, or they will set up internal troubles. A good *combined* bone and vegetable cutter should be stocked by all poultry-keepers, to whom it should prove a boon. A cheap, inferior appliance is useless, as the work of grinding and cutting is done by knives which must be strong and reliable. All kinds of soft bones suitable for poultry, greenery, roots, &c., can be put through one of these machines and be turned into palatable foodstuff ready for use.

Other Animal Foods.—Other animal foods include fish-heads, offal and *soft* bones, dried blood, horseflesh, liver, lights, paunches, skim-milk, buttermilk, sour milk, whey, and cheese parings. Blood from the slaughter-house, which is invariably wasted, can be cooked and reduced to a powder for use in the soft food. Having brought the saucepan of water to the boil, drop in the pieces and keep the whole simmering for a good time. The blood will then resemble cooked liver and can be rubbed up in the mash. It should be used fresh, as when so prepared it will keep but six or seven days. A good method of preparation, if it is desired to keep the food for a long period, is after boiling to place it in the oven to dry, and then store it in airtight vessels. Some poultry-keepers mix it with middlings into cakes, which are baked in a slow oven. In cake form it will also keep for a long time.

Canary Seed.—A correspondent informs me that he is able to get canary seed, but does not know if it is of any feeding value for fowls. This little seed I may say is very rich in albuminoid matter and has a feeding ratio of 1 to 4½. It figures in practically all small grain mixtures sold for chicks, but its high price has always ruled it out of the grain diet of adults. Still, it is a most useful egg-producing seed, and can be used as freely as desired in proportion to the price paid for it.

Food Values.—Another reader sends me a list of over fifty foodstuffs, and adds that she will be very grateful if I will fill in the albuminoid ratio of each. The collection includes even dates and walnuts. For the guidance of others I append some of the foods mentioned, together with their values, as so far I have not dealt with them: Barley, 1 part albumen to 6 parts carbohydrates; millet, 1 to 5½; wheat screenings, 1 to 6; walnuts, 1 to 6; dates, 1 to 11½; pea-nuts, 1 to 3; locust bean, 1 to 2; sprouted oats, 1 to 6½; prickly comfrey (green and hay), 1 to 2½; sainfoin (green and hay), 1 to 3; vetch or tare, *green* 1 to 2, *hay* 1 to 2½; melons, 1 to 4½; poppy seed, 1 to 5¾; Irish moss, 1 to 5¾; barley-meal, 1 to 6; dried hops and dried yeast, 1 to 1; beans, peas, bean-meal and pea-meal, 1 to 2; maize-meal, 1 to 8; gluten meal and gluten feed, 1 to 2½; rye, 1 to 7; cotton-seed, 1 to 4; hempseed, 1 to 9; linseed, 1 to 5; sorghum seed, 1 to 8½; beech-mast (shelled), 1 to 1; and buckwheat, 1 to 7.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C. 2.*

SUCCESSFUL REARING OF CHICKENS.

IN my last article on chicken-rearing I dealt fully with the management of the foster-mother, and now pass on to the handling of the chicks.

The Chicks.—At first the chicks cannot grasp what is expected of them, but after a little schooling they soon enter the sleeping section and pass to and fro. Never feed the chicks in the heated chamber, but in the run-section of the rearer, scattering the grain in the litter. For the first few days it is wise to visit the rearer after the chicks have retired, and any that are in the outer run should be gently guided into the sleeping compartment. It is quite a simple matter to entice little chicks to feed; tap the wood or dish with the finger and the noise will attract them. After the first week the chicks can be allowed to run out into the grass enclosure, where the soft food can be given in troughs, although the grain or seeds can still be scattered in the litter inside the foster-mother. In the day-time open the lid of the run-section a little to let in fresh air.

Cleanliness Essential. — In chicken-rearing cleanliness is essential to success. The litter in the heated section of the foster-mother should be regularly renewed, as should that in the run-compartment. The chickens are allowed the protection of the foster-mother until they are eight weeks old, when they are removed to cold brooders (unheated) or cockerel boxes, *i.e.*, growing stock houses, which they occupy until they are ready for their permanent winter laying quarters. Before they are removed from the foster-mothers the sexes are best divided and run in separate flocks, as this gives the young pullets a better chance of going ahead. Cockerels are very greedy and proper "bullies"; hence the recommendation of separating the sexes.

Feeding Maxims.—There are countless methods of feeding, and I propose here dealing with the general principles only. Chicks do not require food until they are from thirty-six to forty-eight hours old—Nature has performed her duties by providing the yolks which the chicks must devour before they break out of the shells. The first meal, too, if it can be so called, should be fine gritty sand. My four feeding maxims for rearers of chickens are: (1) Little and often; (2) early and late; (3) regular feeding-times; and (4) provide variety of foods. The soft food should be given in wooden troughs or on boards, and the "dry" food (seeds and grains) should be scattered among the litter. Drinking water should be provided from the start, and all vessels should be kept scrupulously clean. For the first week the chicks should be fed every two or three hours, and during the next three weeks five meals per diem will be sufficient, with four feeds daily from a month to three months, when the usual three can be adopted.

Mash and Grain.—The quantity to give must, of course, depend upon the amount of food that the chickens can pick up if they are on free range. The idea is to feed *little and often*—just sufficient at each meal to keep the appetites keen, as this promotes growth. If poultry on free range are overfed, they will make little or no effort to forage. The last meal of the day should be "dry" or grains, and mash and grain should be provided as alternate feeds. As regards grains, the small and broken kinds and seeds should be used at first, the whole grains being given when the chicks get older. The following provide a wide choice for a suitable "dry" mixture: Half (or split) groats, split wheat, rice, broken maize (sparingly), broken peas, dari, buckwheat, millet, hempseed (sparingly), canary seeds and rape seeds.

Green-Food.—If the chickens cannot find a sufficient supply of green-food, it must be supplied in some form or another. Sprouted oats are a valuable greenery, as are onions, the latter being finely minced and either given alone or mixed with the soft food. The green tops are also excellent, and the free use of onions will guard against gapes and many other ailments. Clover-meal after being well scalded and allowed to steam and bulk represents a splendid ingredient of the mash, as do boiled nettles, the tender young leaves of the latter being used. The leaves of nettles possess medicinal properties, as do those of lettuce.

HENS AND CHICKENS.

A pretty snapshot taken on Messrs. William H. Cook, Limited's, model poultry farm at Orpington, Kent. It will be noticed what an excellent wind-screen the bushes behind the coops make.

Mustard and cress can be grown in boxes, and lawn clippings come in most useful. Wherever green-food, house-scraps, bacon rind, cheese rind, &c., are used, they should be finely minced to prevent digestive disorders.

Meat.—After the chicks are a week old, a little meat or animal food should be provided several times a week. It can take the form of meat-scraps, greaves, meat-meal, fish-scraps, fish-meal, or green cut bone. It is advisable to steam thoroughly most of the animal foods mentioned prior to use to aid digestion. Skim-milk can be given to drink or in the soft food, as can soured skim-milk, provided the liquid residue is thrown away, as this tends to create diarrhœa. As an aid to better digestion the drinking water can be slightly coloured once or twice a week with permanganate of potash, and occasionally a little powdered charcoal can be added to the soft food. These precautions will not only aid digestion, but also sweeten the digestive and other internal organs. To ensure the proper growth of feathers the chicks must be guarded against insects, and the head, neck, shoulders and fluff of each chicken should be regularly dusted with Izal powder, which can also be sprinkled over the litter.

Feed for Framework.—In the rearing of chicks it is highly important to feed first for a framework which will carry the necessary amount of flesh that is to be added later. If this is not done, leg-weakness will ensue. For the growing of frame or bone there is nothing to beat bone-meal. This must not be confounded with green cut bone. The latter is produced by grinding up *fresh* bones, whereas bone-meal is obtained by grinding *dry* bones into a meal. Too much should not be given, and I recommend a spoonful mixed in the soft food for a dozen chicks twice or thrice a week.

Exercise Necessary.—Growing stock should be provided with ample exercise. All the free range possible should be allowed, and where this cannot be provided the constant moving of the chickens to fresh ground is recommended. Free range creates an appetite, promotes growth, and provides natural food. A good plan where a small coppice or wood is handy is to place the houses near, so long as they are not directly under trees. The young stock will enjoy retirement during the daytime into the wooded coppice, where they will dig themselves in among the grubs and insects. A bone on which a little (in these times) meat has been left will cause plenty of exercise and fun, and a certain portion of ground can be dug up daily for the chicks to "work." Another good plan is to make a heap of garden refuse, soil and grass turves, and scatter a little grain thereon occasionally.

Late-Night Feeding. — The rearer of fancy poultry knows the value of late feeding, and there is no doubt that a late-night feed by lamplight is all in favour of better growth. It is surprising how quickly the little ones get accustomed to it and eagerly await the approach of footsteps and the glare of the lamp.

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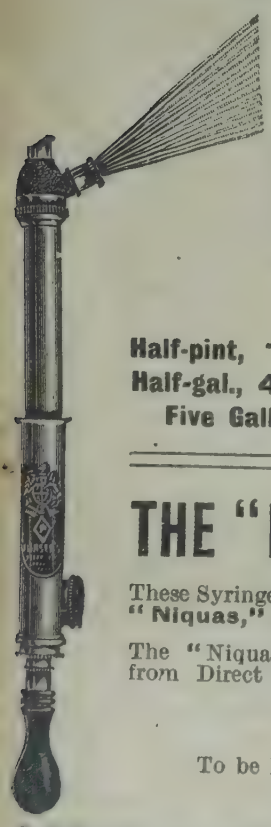

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THE GARDEN.

No. 2380.—Vol. LXXXI.] [June 30, 1917.

NOTES OF THE WEEK

SEEDS of many kinds of vegetables are likely to be scarce next season, which leads us to suggest that as many seeds as can should be saved at home. It is difficult to save seeds of many vegetables, true, and except as a war measure seed saving is far better left to the seed-grower who has made a special study of the methods to be adopted in procuring and placing at the disposal of his clients seeds clean, alive, and true to name. This is by far the more economical method in the long run, but as seed is scarce, special measures should be adopted.

Save Last Season's Leeks for Seed.—For instance, there are probably still in some gardens a few of last season's Leeks. These might be allowed to flower and run to seed, and when the seeding inflorescence begins to dry off, cut the whole thing and hang it up—without attempting to shell out the seeds—to dry thoroughly in a dry shed. The seeds may be removed in January when thoroughly dry in time for sowing next year. Peas and Beans may easily be saved in gardens if a few plants are kept for the purpose, although birds are difficult to keep off the former. Cabbages and Beets are likely to cross if other Cabbages and Beets respectively are in their neighbourhood. It would, of course, be unwise to attempt to save seed from bolting plants of Onions or Cabbages, as the progeny would then be more likely to bolt.

Shallots: Errors in Cultivating.—We have more than once, when examining school gardens, found Shallots nearly 6 inches deep and with the tops cleared away when judging-time came along in early July the crop was practically non-existent. Deep setting of the bulbs and earthing up are errors to be avoided, and where the latter has been done it should be at once corrected in order to afford the clusters every opportunity of maturing in due course.

Southampton Royal Horticultural Society.—Notwithstanding the stressful times through which we are passing, this society is working hard to keep things going. A grand summer flower show will be held in the beautiful grounds of South Stoneham House on Wednesday, July 11, when prizes for allotment holders and cottagers will be awarded. A band and other attractions will be provided, including netting the salmon pool (tide permitting). A floral bazaar will be held in connection with the show in aid of the local branches of the British Red Cross and the Order of St. John.

National Sweet Pea Society.—Although the Manchester Show has been abandoned, arrangements have been made for exhibits of Sweet Peas in connection with the Royal Horticultural Society's meeting on July 3 (the only available date) in the Drill Hall, Buckingham Gate, Westminster. No schedule of prizes will be published, but medal awards will be made to meritorious exhibits put up by trade and amateur growers. Members are specially invited to exhibit novelties. The trials of novelties for this year have also been abandoned.

Flower Show in the Ruhleben Prison Camp.—The following interesting letter has recently been received from the secretary of the Ruhleben Horticultural Society: "You will be pleased to know that, notwithstanding the very severe winter which we had, we were able on Saturday, April 7, to hold our first flower show of spring flowers, which was very successful and was greatly appreciated by our fellow-prisoners. Now that milder weather has set in, trenching operations on the vegetable garden have commenced, and morning and afternoon squads of sixty men go out for this work. In the meantime our frames are full of vegetable seedlings, and by the time the ground is ready they will be in a condition to transplant. We hope in a few days' time to send you copies of the photographs of our flower show, which will interest you, no doubt. Would it be possible to make arrangements for gardening papers and books on horticultural subjects to be sent to us here? We should be delighted to receive any literary matter of this description." The British Prisoners of War Book Scheme (Educational) will be glad to receive offers of literature in response to the above appeal, as well as of other books (not fiction) suitable for prisoners who are desirous of pursuing various studies. All communications should be addressed to the Chairman, Mr. A. T. Davies, C.B., at the Board of Education, Whitehall, S.W.1.

CERASTIUM TOMENTOSUM CLOTHING A DRY WALL.

Cerastium in a Dry Wall.—With its masses of bloom and curtains of neat grey foliage, no plant is better for a June effect in dry walling than the old favourite Cerastium tomentosum. Even in the old bedding days of fifty years ago, long before the special cultivation of alpine plants was thought of, it was valued as a grey edging plant for summer gardens. But in a dry wall it is seen quite at its best, for its habit is to trail downwards and form sheets of hanging growth. The illustration shows the advantage of planting it on the top edge of the wall as well as in the middle and lower joints, so that the upper level and the vertical face are pleasantly connected. The group shown has been several years in its position, and has sown itself on the ground at the foot of the wall. Every year or two, when the hanging mass looks overworn, it is cut clear away, when sheets of new growth are quickly produced.

A Practical Booklet on Bottling Fruits and Vegetables.—Throughout this year a series of lectures and demonstrations on fruit preserving and bottling have been given by Mr. and Mrs. Vincent Banks at the Royal Horticultural Society's fortnightly meetings at the Drill Hall in Buckingham Gate, S.W. These lectures have now been supplemented by a book, which the society has published and which Mr. and Mrs. Banks have written. The book deals not only with vegetable bottling and fruit preserving without sugar, but goes further and includes many valuable recipes for pulping fruit, which economises sugar, and for jams, jellies and marmalade. The methods and recipes set forth in the book are the result of the authors' practical experience extending over many years. The price is 1s. 2d. post free. It can be obtained from the Secretary of the Royal Horticultural Society, Vincent Square, Westminster, London, S.W.1.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

About Roses and Lilacs.—Notice has recently been called in THE GARDEN to the early Roses, Rosa Hugonis and R. altaica. The former in my garden has been a mass of bloom 8 feet high by 10 feet broad, and a common Lilac near made a beautiful addition. Three plants of R. altaica were a mass of bloom 6 feet high by 10 feet broad, and near it Iris Purple King added to the picture. I cannot conceive why people do not grow them more. Friends to whom I have recommended them tell me that nurserymen, when asked for Rosa altaica, reply that they do not know it! R. Hugonis was a lovely sight last year also. It is curious that both last year and this year one great flowering shoot of R. Hugonis has died suddenly in mid-flower, the rest of the tree being quite healthy. It seems like the disease that attacks Clematis for some unknown reason. Have any of your readers had experience of this; I mean with regard to R. Hugonis? Some while ago correspondence appeared in your columns *re* the pruning or non-pruning of fruit trees the first year of planting. Mr. Pearson put the case excellently for pruning. I have found by experience just as he says, that if you do not prune the first year it is difficult to prune the second year, as you get no nice dormant eyes to cut to; but, apart from this, I notice in this year of drought that the bushes of Apples planted this spring that were pruned hard are looking well, whereas some few, mostly cordons, that I did not prune are feeling the effects of the drought in a marked manner. I notice you say of Syringa Ellen Willmott that it is probably the most beautiful double white Lilac. To my mind it is not nearly so beautiful as Mme. Abel Chatenay.—(Rev.) ROLLO MEYER, *Watton Rectory, Hertford.*

The Altai Rose.—Rosa altaica is again a delight with its large, creamy white, single flowers, and is a source of great pleasure to all who see it and who can appreciate the charms of the single Roses. It is such a free grower, too, and makes such handsome bushes that it is a treasure for those who love the Rose in the wilder parts of the garden in huge bushes, so that they may bear a wealth of flowers. I have had it from various sources, and there appears to be a slight variation in the plants. One form I have here looks more creamy in its hue and to have larger blooms than others. It may be a disadvantage in some places, but a gain in others, that it suckers freely. By this means good plants may soon be secured if the suckers are taken off in November or early spring and planted where desired. As it fruits freely, it is almost a matter for surprise that those who have time and space have not endeavoured to raise seedlings and to select the best from these. I hope, however, that nobody will spoil the charms of this early flowering and most delightful single Rose.—S. ARNOTT, *Dumfries.*

Good Fruit Crops Each Year.—Your correspondent H. Vendelmans (issue June 16, page 221) in his note on this subject appears to give all the credit for regular crops of fruits each year to "appropriate manuring," regardless of the known fact that certain varieties of fruit—Apples among others—are proverbially shy fruiters, while others are consistent croppers year by year. Such well-known culinary Apples as Stirling Castle, Lane's Prince Albert, and Bismarck—where the latter is left unpruned and only thin wood removed—are instances of the latter; while Gravenstein, Alfriston, Keswick Codlin and Beauty of Bath might be cited from out of the not short list of the proverbially shy. In the mind's eye is a row each of Bismarck and Beauty of Bath, trees of the same age, side by side, that first named yielding bushels of fine fruit each year, the other enough to cause it to be condemned and turned into potash. The trees were good specimens, there were plenty of fruiting spurs and a good show of blossom annually, but no crop worthy of the name. Of the two rows named, the Beauty of Bath was by far the better looking, never having carried crop enough to cause any distress. Whether the shortness or entire absence of crop was due to infecundity of the pollen in the variety or not I do not know, but it was an instance in which the manuring suggested by your correspondent could have only resulted in excessive wood production without any good result. Under like conditions Lane's Prince Albert was a consistently good cropper annually, not a few of the fruits reaching exhibition size and finish. These are mentioned in order to show that things other than manure count, and among them weather conditions after the cultivator had done all that was either possible or practical. Liquid manure for orchard-grown trees is hardly a practical suggestion, and trees grown under glass are so differently circumstanced in so many ways that the two can hardly be compared.—E. H. JENKINS.

Traps for Queen Wasps.—During the past few days I have killed over forty queen wasps on Cotoneaster pannosa and C. bullata, both of which attract them and prove excellent traps for these pests.—T. H. F., *Ewhurst.*

Root Cuttings of Anchusa.—After reading your reply to "Huxham"—"Anchusa Root Cuttings"—on page 229 of THE GARDEN, I would like to state that on May 9 of last year, having to lift several plants of Anchusa italica, I prepared about forty cuttings from the roots of a few of the plants. I then put them in a row in the garden, first covering them with sand and then with the garden soil. Most of the roots grew and made nice plants. They were transplanted in April this year, and are at the present time flowering very well.—P. S., *Liss, Hants.*

Cutting Back and Dwarfing Hardy Plants.—Mr. Jenkins' note *re* the above in THE GARDEN of June 16, page 220, refers to Michaelmas Daisies, among others. I have continually treated these thus (especially when I had a tiny town garden). I left a few shoots in the centre of a clump to grow to their full height and pinched back all the outer ones, gradually decreasing them in height towards the extreme outer edge. This caused each to throw out a number of short, branching sprays, making a mass of blossom from quite low down, causing the whole to remain longer in flower, and giving a plentiful supply for cutting without spoiling the garden effect. I have treated tall Antirrhinums, hardy Chrysanthemums and other plants in like manner to great advantage in a small garden.—ANNE AMATEUR.

A Remedy for Slugs.—I quite agree with Mr. E. Beckett that soot as a slugicide is greatly overrated. Like slaked lime, it is only effective when fresh and dry. I have found the best means of destroying slugs is to heavily dress the ground with freshly slaked lime when it is vacant, using the lime at the rate of 2cwt. to each 10 rods—I give this proportion for the benefit of your many allotment holder readers—digging the ground the next day before the lime has lost its killing properties. By this method the slugs underneath, as well as those on the surface, are reached. It will be seen that to get the best results, only as much ground as can be dug in a day should be dressed with lime at once. This liming will not kill all the slugs, though their numbers will be greatly reduced. Those which are troublesome later on with the crops may be trapped fairly easily if pieces of old sacking or boards are laid near the plants. Slugs are mostly nocturnal feeders, and they will hide under the materials named during the daytime, so that it is merely necessary to turn them over and kill the slugs. Ducks are great slug-eaters, and, as they are not such bad gardeners as fowls, may often be turned into the kitchen garden.—A. C. B.

The Common Elder.—This woodland weed, so detested by all good woodmen, is, however, a really beautiful shrub and worthy of the greatest admiration when growing in its proper place. I have just admired a rounded specimen 20 feet high, of perfect yet informal shape, and studded with huge plaques of fragrant, creamy flowers. This huge bush is growing by the side of a placid little stream which gently meanders along dividing meadow land from the wood, and next, in marked contrast, is a mass of the delicate pink wild Rose. This floral feast is in the real country, and probably an accidental effect, but in the cultivated wild garden and by many a lakeside it might be copied with advantage. For the shrubbery in the garden proper there is quite a fair selection of varieties and foreign species which are sometimes enlisted by planters, but, except the Golden Elder, they are all too rare. I may add that if the shoots of the Golden Elder are tipped now, the bushes retain their colour much longer into the autumn than if allowed to grow unchecked.—A. C. B.

"The Gardener, Florist and Agriculturist": Doings in the Forties.—The first volume of this periodical publication has recently come into my possession. No. 1 is dated April 10, 1847, and No. 26, October 2, 1847. The firm who reported the work mentioned in their letter that it was new to them. As it is also to me, I would be most grateful if any reader of THE GARDEN could give me any information about its parentage or the length of its existence. All these journals and newspapers are glasses in which we see the past as in a glass face to face. They are clinical thermometers which register the condition of the gardener of their time, and as such are indispensable aids for a true diagnosis of his case. Many, too, are the undesigned lights which they throw upon the past. Under this heading I have learnt that the first edition of Glenny's "Properties of Flowers" came out in 1847; and a chance expression has set me wondering if it ever was the fashion to plant Cabbages in waving lines to make them look ornamental. Perhaps Mr. Beckett, our kitchen garden magician, could tell us this. One very curious sentence in an article on "The Cultivation of the Tomato" I must quote: "Cows are said to thrive well and give an increased quantity of milk of improved quality when fed upon Tomatoes. They may not take to them kindly at first, but are said to grow soon fond of them." Cows evidently are not bad judges of what is good; neither are hens. So my household and I say for shredded Maize pudding, which, made *à la* Rice pudding, is A 1.—JOSEPH JACOB.

Saxifraga pedemontana cervicornis.—I do not quarrel with the name of this charming little plant, as I am sometimes told I ought to do. Enough to possess what promises to be one of the most satisfactory of the smaller tufted Mossies, with a creeping, matted foliage of a soft apple green, covered for many weeks with abundant blossoms. These flowers, though they are all but stemless, are as large as those of S. Wallacei and of the same form, but they are of a pure cold white and of fine texture. There is nothing coarse, nothing untidy, no jarring note in flower and foliage, and, so far at any rate, this sweet-tempered little Saxifrage has proved surpassingly easy to grow.—A. T. J.

Scilla ita'ica alba.—This very pretty little bulbous plant is undeservedly neglected, for it is undeniably charming and yet is rarely seen in gardens. The cream white flowers are in closely clustered pyramidal heads on stalks 5 inches or 6 inches high, and the strap-shaped leaves are of a full deep green. It is all the more welcome because it comes at a kind of midseason of the smaller bulbous plants—near the middle of May, when the Daffodils are almost over and the quite late bulbs, Hyacinthus amethystinus and Muscari comosum, are not yet due. Its nearest companion in season of bloom is Triteleia uniflora, but the two should not be closely associated, for the white of the little Squill is creamy and the white of Triteleia has the faintly bluish colour of skim-milk. I have noted to plant the white Scilla close to a drift of the brilliant blue Pulmonaria angustifolia cærulea, for their blooming time is identical and in colour they will set off one another.—G. J.

Hood's Phlox (Phlox Hoodii).—I shall be glad to hear of the whereabouts in commerce of Phlox Hoodii, one of the few North American Phloxes which do not appear to be available. It would seem to be a plant likely to interest the rock gardener, even although it may prove inferior to some well-known and acceptable favourites, such as P. subulata and others. I have no recollection of having met with it anywhere in cultivation, and the surprise is that it is not in commerce, seeing that its habitats are fairly widespread. It occurs from Manitoba to the North-West Territory and south to Western Nebraska and Wyoming. It frequents dry, sandy soil. Hood's Phlox is a closely tufted plant from 2 inches to 4 inches high, with imbricated, erect, subulate, sometimes ciliated leaves, and is closely related to P. Douglasii, but more imbricated and with shorter leaves. It flowers in May and June, the blooms being purplish.—S. A.

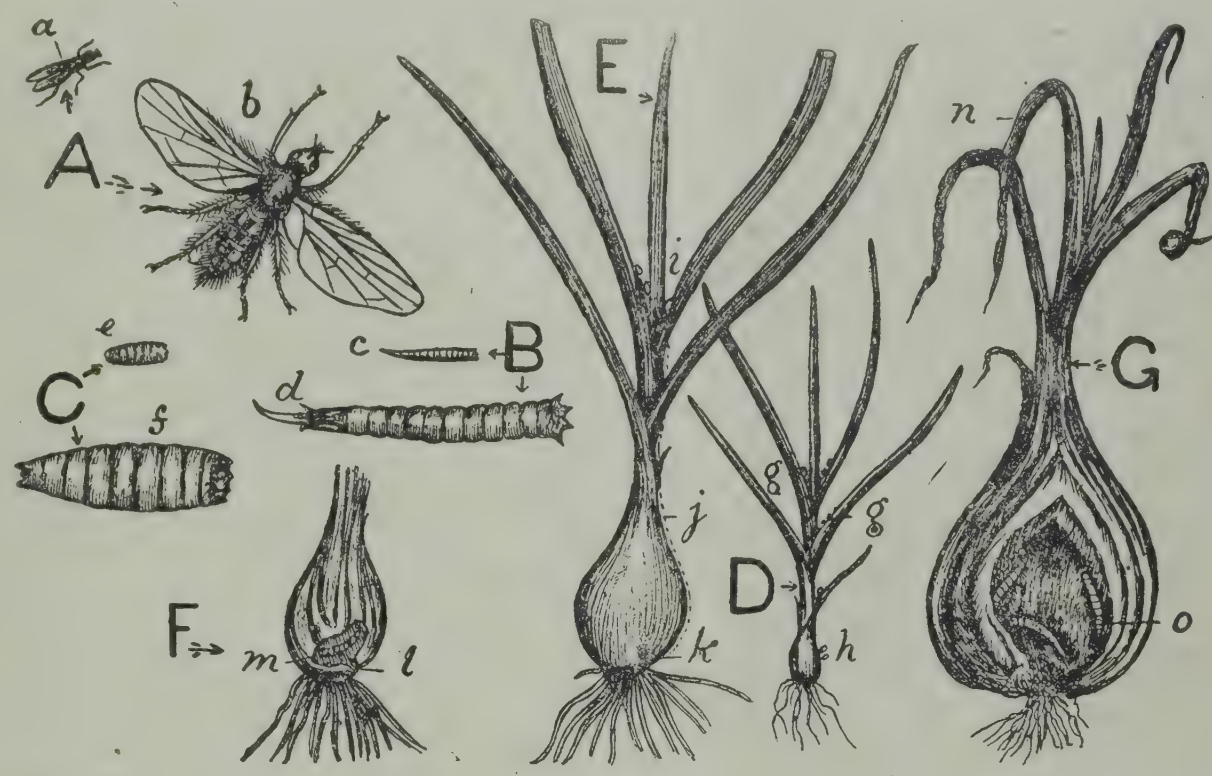
THE ONION FLY

A MONTH ago we were looking at one of the most promising beds of January-sown Onions we could ever wish to see. To-day we hear that the Onions are being carried off one after another by the dreaded Onion fly. This is in the County of Surrey, but we fear that the pest is very troublesome in other parts this season, and we also hear that autumn-sown Onions are falling a prey to this insidious pest.

The Onion fly (Anthomyia ceparum, syn. Phorbia cepetorum) is not unlike the common house fly in general appearance. It is of a blackish colour, thickly powdered with grey; the sides of the thorax are pale, and there are three dark lines on the back. In certain lights the abdomen has a whitish lustre, with, in the male, a darker medium stripe. The eyes are separated in the male by a slender, black, white-bordered line; the face has a pale lustre and the forehead is black, as are the antennæ and palpi; the legs are pitch black, the wings being pale grey, and the pincers white. The length of the insect is about a quarter of an inch. In the female the forehead is broad, with a reddish brown, vertical medium stripe, and the body is more ochreous in colour than the male.

The Onion fly is causing serious injury to the Onion crop this season, large percentages of the plants being quite spoilt, both in large and small areas. The first indications of its presence are shown by the largest leaves of the Onion plants becoming yellow and afterwards whitish; if these are pulled they come easily away from the stem, and gradually the other leaves become yellow and decay. The bulb will be found to be small and badly shaped, and to have yellowish maggots within its folds feeding upon it, this eventually causing it to become decayed and useless. In other cases the outer or lower leaves of the plants are seen to be lying on the ground, still green, while the leaves remaining upright and green feel soft and flabby. If infected plants are examined it will generally be noticed that in the case of very young plants they are eaten through just above the swelling bulbs by the maggots or larvæ of the fly. In older plants, with large bulbs, maggots of all sizes will be found within the bulbs.

The flies appear in early summer, and the female lays six to eight eggs on an Onion plant upon the leaves, and just above the ground or on it. The eggs are white, long-oval and readily seen with a pocket lens. Larvæ, called maggots, come from the eggs in from five to seven days, and make burrows down into the root or bulb between the



ONION FLY.

THE ILLUSTRATIONS REPRESENT ONION FLY: ATTACK AND EFFECT ON ONIONS.

A, Onion fly: *a*, natural size; *b*, enlarged three diameters. B, larva, commonly called maggot: *c*, natural size; *d*, magnified three times. C, pupa, sometimes called fly-case: *e*, natural size; *f*, enlarged three diameters. D, young Onion at usual earliest stage of attack: *g*, eggs of Onion fly deposited on leaf bases; *h*, eggs deposited on ground close to bulb. E, attack on plant after bulb commenced forming: *i*, eggs laid in leaf axils; *j*, dotted line indicating course taken by maggot after hatching out to base of bulb; *k*, hole eaten by maggot in passing into bulb. F, section of Onion infested with maggot: *l*, hole made by larva or maggot in entering bulb; *m*, burrow in bulb with maggot lying in it. G, Onion destroyed by Onion fly: *n*, top withered; *o*, centre of bulb decayed with maggots in it.

sheathing leaves. They feed upon the contents of the stem or where a bulb would form, and move on to other plants. Where the bulbs are larger they are occupied by many maggots, feeding on and causing them to become decayed, and in some cases the earth round the bulbs is also infested. The maggot continues in the larval state about a fortnight. When full grown it is about one-third of an inch long, dull yellowish white or dirty white in colour. The head part of the body is sharply pointed, and the head furnished with a pair of black hooks, which can be extended at will. The tail end is cut off obliquely flat, and in the centre there are two brown breathing tubes, and on the margin of the flat tail end there are eight projections. Before reaching the pupa stage the maggot usually goes into the earth, but sometimes remains within the Onion. The pupa, or its case, is chestnut brown, long-oval, and from the pupa case the fly appears in from thirteen to sixteen days. In a season there are several generations of the fly. The first has been seen as early as April 25, and flies have been noticed as late as November.

Prevention.—1. Spraying with offensive compositions. (*a*) Paraffin emulsion made by mixing three pints of paraffin oil and half a pound of soft soap with one gallon of boiling water, mixing being thoroughly done by churning with a hand pump, adding seven gallons of hot water when the Onions are young, and six gallons when they are forming bulbs. The spraying should be dense and in the form of a mist, operating early in the season, repeating twice or even three times, especially if heavy showers fall after the process. (*b*) Tar water, made by boiling half a pound of gas-tar and two gallons of water for half an hour or until it will readily mix, then diluting to fifty gallons, applying as advised for paraffin oil emulsion solution.

2. (*a*) Dusting the plants with a mixture of lime and soot, mixed together in the proportion of one bushel of soot to two bushels of lime, very finely powdered and broadcasted over the plants, afterwards lightly hoeing in, has been efficacious in some degree. (*b*) Sprinkling the young Onions with soot has been adopted with some advantage, but it is necessary to repeat the applications, a peck of soot being applied per rod at each dressing. (*c*) Kainit, broadcasted on land cropped with Onions, at the rate of 5cwt. per acre, or 3½lb. per rod, has been found of great use. Where obtainable, it should be lightly hoed in after being broadcasted on. (*d*) Nitrate of soda applied at the rate of 1¼cwt. to 2½cwt. per acre, or 14oz. to 28oz. per rod put on infested land, after finely crushing, stimulates the plants and acts badly on the maggots.

3. Sow Parsley with the Onions thinly, the smell of the former being hateful to the Onion fly. In many farms or gardens the Parsley remains after the Onions, and is sometimes a very remunerative crop. The Onion fly does not appear to relish umbelliferous crops; hence follow Celery with Onions, not using any manure for the latter crop.

4. When Onion plants in a garden or field are noticed to droop and wither, all such plants should be taken up and burnt. If taken up with a small three-pronged fork, the maggots will usually be removed with the plant. If this is done early all the larvæ will be got rid of, but if deferred they will have left the bulb and have turned into pupæ in the soil.

5. All pieces of bulbs should be removed from infected land, as pupæ sometimes remain in the bulbs, afterwards dressing with gas-lime, 2½ tons to 5 tons per acre. After spreading evenly and leaving for a month or six weeks, plough deeply or trench the ground.

6. Wherever possible, Onions should not be grown again for at least one season on land where the crop has been infected, as the pupæ remain in the ground during the winter.

VEGETABLES TO SOW AND TRANSPLANT NOW

THE general run of kitchen garden crops are making satisfactory progress, and beyond watering and occasional hoeing they are more or less able to take care of themselves. But this in not the time "to rest and be thankful"; we must be up and doing to make further preparation for supplies in autumn, winter and next spring. The gardener must always look ahead, and it is hoped that the following reminders for late June will serve a useful purpose.

Sowing Carrots.—The main crop of Carrots sown in April and May often fails owing to the ravages of the Carrot fly and wireworm. This year there have been more complaints than usual about these destructive pests. One way of evading the Carrot fly is to sow late. The end of June or early in July is quite a good time to sow. Some of our most successful gardeners always sow their main crop of Carrots at the end of June, but the practice is not generally known, and it is one of those practical points that is invariably omitted from gardening calendars. The Carrot is a very fastidious crop, preferring a deep sandy or sandy loam soil. It is sheer waste of time to attempt to grow Carrots on heavy, lumpy land that has recently been turned up. The ground must be thoroughly well worked and reduced to a fine tilth before sowing. Well-rotted manure may be applied, but fresh manure is harmful, and on no account should Carrots be given a surface dressing of farmyard manure, or the roots are almost sure to become forked and fanged. Generally speaking, coal-ash is not of much use in the garden except on the garden path; but if the soil is heavy, a good dressing of ashes well mixed in with the soil before sowing is highly beneficial. Carrots do well in a mixture of soil and ashes, and this is a point to remember. In heavy soil it is advisable to grow only the Short Horn type of Carrot. The seed should be mixed with silver sand and sown in drills 1 foot apart, covering with a fine light sprinkling of soil. The seedlings should be thinned in showery weather. Varieties such as Long Surrey, Altrincham and Intermediate should be finally thinned to about 8 inches apart, but the Short Horns require less space—3 inches is usually sufficient.

Sow Turnips at all Times.—The Turnip is one of the most accommodating crops, since it grows quickly and may be sown at all times. It is a capital crop to follow early Potatoes which are cleared off in July. Three of the best varieties are Snowball, Model and the yellow-fleshed All the Year Round. To keep up a succession of young roots, seeds should be sown in small quantities at intervals.

INTERMEDIATE CARROT SHOULD BE SOWN NOW.

Plant Celery in Showery Weather.—Advantage should be taken of warm summer rains to plant out Celery in trenches. A deep rich soil is necessary, and when once established the plants should be given copious supplies of liquid manure made from cow manure or from sheep droppings diluted with water. A weekly application of liquid manure either side of the lines will prove very beneficial. The tops of the trenches should be used for a catch crop, for which purpose nothing is more suitable than Lettuce. If transplanting must be completed in dry weather, the work should be done speedily, watering before planting, and lifting only a few plants at a time. Soak the plants well in, and lay Pea sticks across the tops of the trenches to give shade from the hot sun. After planting, dust wood-ashes and soot around each plant.

The trenches should be about 5 feet apart from centre to centre, 15 inches wide and the same in depth. Half fill them with rich manure, and upon this place a few inches of soil. Ten inches should be allowed from plant to plant, and, when lifting, care should be taken to retain a good ball of earth. When planting is finished give each trench a good soaking with water.

It is now too late to sow Peas and Beans. They seldom do much good if sown after Midsummer Day, although a late sowing of an early Pea will provide welcome dishes of green Peas in October. There is still plenty of time for sowing Onions to withstand the winter. Seed should be sown in August; if sown too soon there is a great tendency for the plants to run to seed in early summer.

H. C.

THE ALLOTMENT WEEK BY WEEK

By A. Cecil Bartlett.

ALTHOUGH Tomato plants are most fruitful when they are each restricted to a single stem, the removal of the side shoots should not be commenced too soon. These lower growths have a decided value in helping to keep the plant dwarf and in preserving its balance. The object of the skilful Tomato grower is to induce his plants to bear fruits as low down on the stem as possible. The securing of this "bottom truss," as it is termed, makes a great difference in the profits of the crop, for it means an extra and earlier cluster of fruits which will weigh not less than a pound, and with good cultivation very much more. As soon as this first cluster of fruits is seen the removal of the side growths may be commenced, as the fruits take first toll of the plant's energies and check a too rapid upward development. Some large growers do not entirely pinch out the lower side shoots, even after the plants have commenced bearing, contenting themselves with pinching out the tips, leaving two or three leaves, but all other side growths are rigorously pinched out as soon as they can be handled.

The ideal Tomato plant is a sturdy single-stemmed specimen with short leaves, fruit almost touching the ground, and a minimum length of stem between the clusters of fruit. So far it does not seem possible to grow a Tomato plant with fewer than three leaves between the fruit clusters, but those who understand their plants

CELERY PLANTS HARDENED OFF READY FOR PLANTING OUTDOORS.

can make a material difference in the length of the internodes, as the botanist terms the portions of stem between the leaves. This gives a shorter plant, which does not cost so much to support, and a heavier crop of fruit. The length of leaf is more important than at first would appear, but on consideration it will be realised that if the leaves can be reduced in length, the plants may be grown closer together than otherwise would be the case, and the labour of cutting the leaves is saved; also there is less drain on the plant's energies.

Both of these objects may be attained by the same means. The soil must not be over-rich, the plants should be firmly set, overwatering must be guarded against, and the manuring, which should not be commenced until the second truss has set, must be of the nature recommended by the old farmer, that is, done with brains. All manures that stimulate growth should be banned, for the Tomato naturally makes profuse leafage. Of chemical manures the best is superphosphate of lime, and this may be used freely without harmful effects. When it can be obtained, potash is excellent; but while the plants are growing satisfactorily sulphate of ammonia or nitrate of soda should not be applied, as these encourage free growth at the expense of fruit. The ready-mixed chemical manures offered for sale by reputable dealers may all be relied upon, though when buying manure for Tomatoes it is well to ascertain the proportion of phosphate, as this constituent is of the greatest value for all fruiting plants, provided there is a sufficiency of nitrogen also present.

In many allotments midseason and late Potatoes are very patchy, and some are far from being satisfactory. The reason in many cases may be traced to the seed, which was unavoidably unsuitable. But it must be admitted that the most promising Potatoes are those that have been "done well." Enquiries elicit the fact that the owners sprouted their sets and thus prevented the risk of blank spaces in the rows, besides ensuring early growth and the Potatoes being established before the drought came, and that the ground between the rows was frequently stirred. Those whose Potatoes are thin in the

haulm should plant winter greens between the rows as soon as possible, so as to make the greatest use of the ground as well as to improve the appearance of their plots. The blank spaces in the rows could be utilised for Lettuces and Radishes, which will mature before the Potatoes are lifted. If the spaces are too numerous for this, a quick-hearting Cabbage of the Colewort type may be planted, and if the plants do not heart firmly they may be used as greens.

Outbreaks of Potato Disease.—Owing to the prolonged drought and the lateness of planting—both beyond the control of the gardener—the new Potatoes in some plots have ripened prematurely and have thrown out shoots. These young tubers will, unfortunately, be of very little use. So far it has happened only on very light and dry soils. In a few instances the Potato disease has been reported, and this should stir up laggards to a sense of their responsibilities with regard to spraying, which should be done as a wise and necessary precaution. The scheme of spraying of the Food Production Department, which has its headquarters at 72, Victoria Street, London, S.W., has already been fully described in these pages.

Planting Leeks and Celery.—As soon as they are large enough the Leeks should be planted in permanent rows. The best stems are from seedlings raised under glass and planted in trenches similar to those made for Celery, though not quite so deep. Trenches a foot square will accommodate two rows of plants set at 8 inches apart. But good Leeks may be grown on the level by making a deep hole with a dibber and dropping in the plant. The hole should be left open, and it will be found that the watering will wash sufficient soil around the roots.

Celery should be planted in either single or double rows in trenches made earlier in the season, allowing 9 inches for each plant. The hot weather has brought out the Celery leaf-miner earlier than usual, so that the plants should be examined carefully before they are planted, and every blistered leaflet removed and burnt. To prevent future attacks the plants should be sprayed with Quassia extract, soapsuds, or weak liquid manure, or they may be dusted with soot. As several generations are born during each summer, the preventive measure should be repeated periodically.

SUGGESTIONS FOR DRYING FRUIT

MR. KNOX'S interesting letter in the *Times re* fruit drying should be helpful to many, but he forgets that the climates of Switzerland and England are entirely different in the greatest of all essentials—sunshine and damp. However, we must adapt ourselves and realise that heat is, after all, only concentrated sunshine, and anyone keen enough to put it to the test will find that *any* fruit or vegetable or herb will dry and preserve perfectly in an ordinary well-heated linen room or a cool oven. In France they string up the Runner Beans on a frame in a warm draught and dry them. Weight is, after all, only water, and that can be added when the food is cooked. Any information I can supply will be given gladly. B. P. MUDIE-COOKE.

The letter to which our correspondent refers is as follows :

Sir,—Now that there appears little chance of obtaining sufficient sugar for jam-making, and the probability of a good fruit year lies before us, might I suggest the possibility of teaching our country people the method of drying fruit so widely used all over the Continent of Europe, in climates no better than our own? The process is quite simple, inexpensive, and requires no sugar.

In Switzerland, where I lived for many years, quite small cottagers were accustomed to dry all kinds of fruit—Apples, Pears, Plums, Cherries, and even wild Whortle, or Hay berries—making a good store for their long, cold winters. Should we be fortunate to have anything resembling a glut of Apples, not one single Apple ought to be wasted. The better kinds would make pippins and Apple rings, while the inferior sorts could be cut up and dried without being first peeled. This makes a quite eatable dish with very little trouble. Should Plums be abundant, various kinds of Prunes could be made, and so on with almost every kind of fruit. The method is to spread the fruit out carefully on tins or oven shelves and slowly dry it. Very little heat is necessary. Cherries are generally spread first in the sun until they shrivel, when they are finished off in slow ovens. Further details can be supplied if desired. It is also possible to make a very delicious preserve called Apple honey, which simply means boiling Apples slowly for a very long time without any addition of sugar. The people of Denmark make this in hay boxes, thus saving fuel. When cooked long enough it is thick and brown, and very sweet, and will keep any length of time. In the present time of need, surely this simple method of increasing our food supply is worthy of a trial.

I am yours faithfully,
MARCUS KNOX.

Care of St. Saviour's Vicarage, Eton Road,
Hampstead, May 31.

THE VALUE OF ARSENATE OF LEAD SPRAY

UNDOUBTEDLY arsenate of lead preparation is the very best material now in use as a spray for killing caterpillars on fruit trees and bushes of all kinds. It is also very effective when used on vegetable crops, such as the Brassicæ, against grubs and caterpillars. Arsenate of lead spray is intended to poison the food of biting insects like caterpillars that live on plants by eating away the foliage. It will not affect sucking insects of the green fly class, or fungoid diseases. These pests must be dealt with by different materials. But arsenate of lead will mix with the same preparations used against both, so that it is possible to deal with three pests at once if they abound. For caterpillars, 3lb. to 4lb. of arsenate of lead; 7lb. of Bordeaux mixture for fungoid disease; and 10lb. of tobacco extract for sucking insects, to 100 gallons of water, will make a spray that will combat all the enemies to fruit which are classed above.

PLANTING CELERY. THE TRENCHES ARE WELL MANURED AND ABOUT FIVE FEET APART.

The Canterbury Hoe.—This is a comparatively unknown garden tool to amateur and professional private gardeners, although most market growers rightly consider it to be indispensable. To use an Irishism, the Canterbury hoe may be described as being a strongly built Turnip hoe with prongs instead of a solid blade. It may be had with two or three prongs, but for general purposes the three-pronged tool is the best, and it should be of medium size so as to be used easily, for the large sizes are very heavy and soon tire the worker. The chief use of the Canterbury hoe is for breaking up land which has been turned up rough, and for cultivating Potatoes. But it is also an excellent tool for hoeing in fruit plantations and for dragging Couch Grass out of the ground. As the soil is stirred to a greater depth than by any other hoe, the Canterbury type is very valuable for use when preparing the ground for seed-sowing.

When used alone, 3lb. to 6lb. per 100 gallons of water, according to the time when it is applied. If trees are sprayed before the bloom opens, 3lb. per 100 gallons of water is enough. When applied after the bloom has gone, more is needed, because the caterpillars are bigger, stronger and more difficult to kill. Although a strong poison, the amount included in a spray is so small that it can do no harm to human beings; but it is not wise to spray trees on which the fruit is nearly ready for gathering. Spraying should take place before and after blooming, and never while the bloom is on, because fertilisation will be interfered with.

Hitherto Paris Green and London Purple have been used for making caterpillar sprays, and there are many still who recommend these substances. Arsenate of lead is superior to both, because its effects on the caterpillar are deadly, it sticks well, and does not scorch or burn the foliage. The best time of the day for spraying is in the morning while the dew is still on. Care should be taken to procure the right kind of nozzle, *i.e.*, one that will produce a fine mist-like spray; and it will be as well to bear in mind that the object of spraying is to spray the trees and not to wash them. Therefore all parts of the tree should be touched with

the mist; but so much that it runs off should not be applied. Always be on the look-out for pests, with good lens, and never spray except in the event of them being present. L. M. MARSHALL.

ANTS IN GARDENS

THE following is one of several letters we have recently received from readers: "Our garden is at the present time infested with ants. They eat the fruit, and have now taken to eating the Rose buds. What can I do to prevent this? I have tried Quassia with no effect, and have placed pots filled with grass under the trees as advised in 'Gardening Made Easy'; but meanwhile they are feasting on my Roses."

One can hardly help placing these insects among those that are injurious in gardens, though the amount of mischief they do is very small, and it is only when they make their nests at the roots of a plant that any harm is done, and that only indirectly, as they do not feed on the roots; but these are injured by not being in such close contact with the soil as they should be. It will nearly always be found that if an ants' nest be made among the roots of any plant, the roots are attacked by one of the root-feeding aphides. This position has been selected in order that the ants may the more easily feed on the sweet secretions of the aphides. When this is the case the plant should be taken up, its roots carefully washed and freed from the aphides, and then be replanted elsewhere. The ants' nest may then be destroyed by pouring boiling water, diluted carbolic acid, or paraffin into it. If it is undesirable to remove the plant, take a good-sized garden pot, stop up the hole at the bottom, half fill it with leaves, and place it bottom upwards on the ground close to the plant; then water the plant copiously every day, so as to keep the soil thoroughly saturated. The ants will soon begin to move their nest to the shelter of the pot, which in about a fortnight's time may be carefully taken away, when it will be found to contain the nest. Ants are often of service by showing when a plant is attacked by aphides or scale insects, for if several ants are found on a plant it is almost certain that it is infested by one of the other insects.

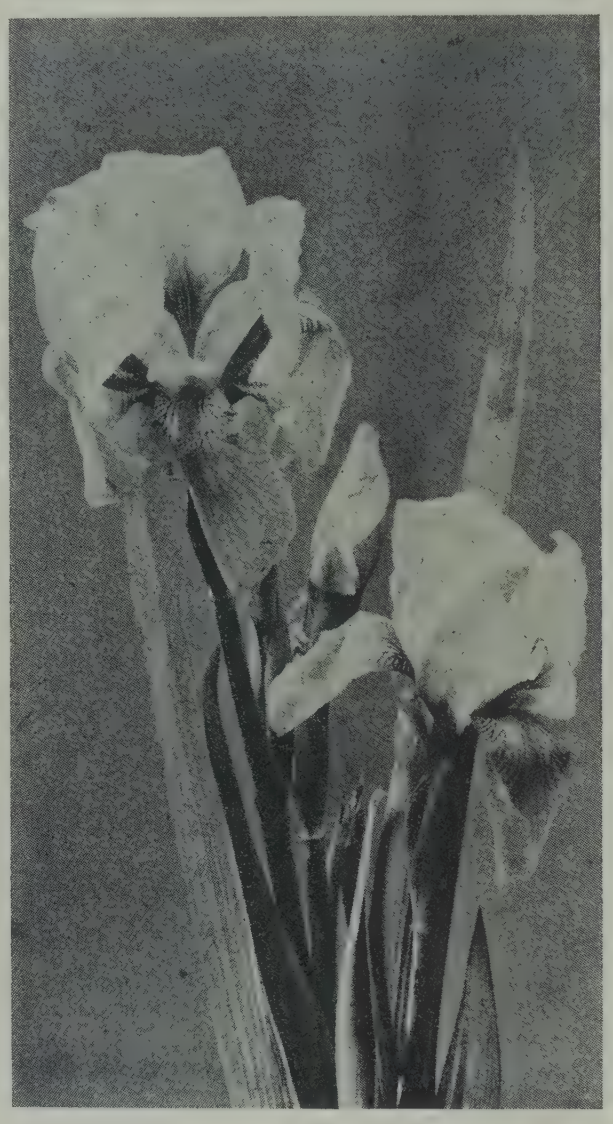
THE NAME "FORMAL GARDEN"

"THE *garden* of this house has been called by that simple and right name for 300 years, and to describe it as 'formal' is needless and redundant. This useless term was applied to the garden by two men who wrote a book about gardening, and, knowing nothing of it, supposed that *any* attempt to promote wild gardening meant the abolition of a garden near the house.—WILLIAM ROBINSON, *Gravetye Manor, East Grinstead, Sussex.*"

The above is a cutting from THE GARDEN of November 25 last. At the time I read it I could not help thinking that it gave expression to an idea utterly at variance with the established policy of not only THE GARDEN, but all its kindred publications, *Country Life*, and the books of the *Country Life* Library. I anticipated and hoped that the opinion as to the use of the word "formal" would be challenged, but in this have been (not alone among your readers, as I happen to know) disappointed. This has just been brought to my notice in a way that leaves me no option but to take up the cudgels for the retention of a term which I believe not to be "useless," as Mr. Robinson describes it, but one that fills a vacuum in gardening vocabulary.

First, let us examine its etymological significance. Taken at random from half a dozen dictionaries, new and old, I find that its definition is given variously as follows: On the authority of Holy Writ, "form" means splendour, pomp and dignity. Shakespeare uses "formality" to imply regularity, method, order. Waller uses "formal" to signify regular, methodical. Again turning to Holy Writ, we find "form" used to express a sense of beauty, or elegance of appearance; and, finally, Dryden uses the term "to form" to imply to modify, to scheme, to plan.

I might say in passing that this opinion of Mr. Robinson's is not by any means a recently formed one; but I, in common with many other admirers of him, have never been able to understand his reasoning, which seems to be lacking in logic. In his "English Flower Garden"—undeniably one of the best gardening books in the English language—he freely makes use of such phrases as these: "Formality is often essential to the plan of a garden," and "Design not formal only," which imply at least that he found the necessity of



IRIS DOROTHEA.

using the word to express something, whatever he had in his mind at the time. In the light of the context to the above quotations, there is very little doubt that he understood by it what most of us do, viz., those portions of the garden that have for one reason or another to conform to regular lines, methodical arrangement, and perhaps ordered severity of design.

Now let us examine another term that we all use freely and with which Mr. Robinson has been particularly liberal—the "wild" garden. Again let us take the etymological significance of the word: (1) "Not refined by culture." (2) "Growing without culture." (3) "A term prefixed to many plants to distinguish them from such as are grown in gardens." Yet a third definition, and this time of the word "garden": "A piece of ground appropriated to the *cultivation* of herbs or plants, fruit or flowers," and "A rich, well-cultivated spot."

Obviously, if we adhere strictly to the dictionary definitions, a *garden* cannot be a garden and at the same time *wild*. But "wild garden" is nevertheless a correct term to employ, because by established usage it has come to convey to our minds gardening or cultivating with the freedom of line and arrangement displayed by Nature. It means cultivating a garden in imitation of Nature's own haphazard and indiscriminate but, nevertheless, beautiful distribution of its component parts. In the true etymological sense we have no right to use the term and, curiously enough, the French possess none to correspond with it. The nearest they get to it is the *jardin sauvage*. But Mr. Robinson, if he did not create the term, has certainly been the most effective instrument in popularising it, and we are all grateful to him. Would any of us dare to say it is "needless," "redundant" or "useless," or that to call the wild garden a garden is sufficient? No; and why? Because it separates in the mind the portions of the gardens that are not regular or methodical. It eradicates instantaneously all thought of terraced gardens, straight lines, herbaceous borders, architecture of all descriptions, but rather conjures up the picture of Goldsmith:

"Near yonder copse where once a garden smiled,
And still where many a garden flower grows wild."

If, then, the term "wild garden" is justifiable because it separates in the mind the necessary extension of the architectural lines of a house into the surrounding land; if these lines must (and often it is inevitable) consist of direct paths to particular points; if it is wise—and it often is—to create on the lines of such paths a garden arrangement, simple, more or less severe, always to a very great extent regular and methodical, then the term "formal" is not only desirable but indispensable. Moreover, it is better used than the word "wild" ever can be, applied to any part of the garden. Splendour, dignity, beauty, elegance of appearance and method always have their place in the good garden. Often regularity and pomp may be—indeed, are—overdone, but that is no reason for discontinuing the use of a word that has come to mean so much. If it is said that there are gardens called formal that are bad in every respect, then I must retort that there are so-called wild gardens that are mere neglected wildernesses, and others that are wild only in the sense that they are artificial dumps, such spots as Nature never produced in her wildest mood.

The whole point is this: If a word conveys what it is meant to convey and is generally understood, it is right to use it. The fact that one may conceivably have an objection to what it does convey is no reason for suppressing its use. "Formal garden" means something that we all understand, and whether that something is good or bad matters not at all. It is a term we cannot dispense with. GEORGE DILLISTONE.

THE EDITOR'S TABLE

June Irises from Maidstone.—From Messrs. George Bunyard and Co. comes a box of the gorgeous Irises of June, or Bearded Irises as they are sometimes known. From a collection of two dozen varieties it is no easy matter to single out the best, which included Mme. Chereau and its improved form Ma Mie, charmingly frilled with blue; our old friends Prosper Laugier and I. pallida dalmatica, still two of the finest Irises in cultivation; the great Oriflamme, the beautiful mauve Caterina, the giant Shelford Chieftain, the bold Lohengrin, and the delicate Dorothea, which has been grown at Maidstone for some years. The flowers are porcelain white, tinged with lilac blue.

BOOKS

All About the Potato.*—In a book of 90 pages Mr. J. C. Newsham sets out to tell readers "all about the Potato." Judging from the fact that the volume appears as one of a series in the "Smallholders' Library," one would have expected the matter to be useful and easily understood by the ordinary cottager, allotment holder and smallholder. Instead, one finds it is so slight in substance as to be of little use to the beginner, and its very staleness renders the book uninteresting to the professional. The style is too gushing, and from a literary point of view the text is badly written. One is surprised that material of such a poor quality emanates from the pen of Mr. J. C. Newsham. The object of the book is not clear. If no object were sought, then its mission is fulfilled, for nothing is accomplished. Scores of points relating to the Potato are discussed in a brief paragraph or two, and after reading any portion or the whole of the book one is left with a sense of having "searched and found not" and with a feeling of astonishment towards the writer for attempting his subject without dealing adequately with it. Mere reference is given to the geographical, historical, chemical, cultural and culinary aspects of the Potato; and the only point of value in the whole is the emphasis laid on good tillage as an essential factor in successful Potato growing. The opening chapter begins thus: "Never before in the history of the world has this excellent vegetable been more worthy of the cultivator's attention. . . . In the Potato we have a wonderful example of a wild plant being utilised as food for human consumption or for livestock. Nowhere has man's labour been crowned with such momentous results as in the development of the Potato, not only as food, but also in the arts and manufactures." Then there are any number of sentences and phrases like these: "Now starch, although found plentifully and widely distributed throughout the vegetable kingdom, is a very valuable material, as it is quite easy for chemists to prepare a host of very useful materials from it." "Now as to the question as to whether the cultivation of Wheat or of Potatoes should have the preference." Criticism is easy, and I will close by expressing the hope that our friend Mr. Newsham's next book will show better work.—L. M. MARSHALL.

TO KEEP SMALL POTATOES

ONE of the lessons of the war is going to be the value of vegetable diet as an asset to daily food, especially when meat is found to be scarce and dear. In the large country gardens there is apt to be a good deal of waste of good vegetables during the summer-time, and one hopes that this year it may be checked. I send a Danish recipe for keeping small Potatoes, which are very often thrown away, and if kept in this fashion are most excellent eating in midwinter. Anyone caring to put down a good supply will find them a welcome addition to the Christmas fare. They can hardly be told then to differ from freshly grown young Potatoes. The method is as follows:

"*To keep young Potatoes.*—In the middle of the Potato season, late June or July, when the larger ones are being dug, take the small ones and put them into wide-mouthed glazed earthenware jars. Then cover them with a little earth and tie the jars down with canvas. Place on the top of the jars an *inverted* saucer to keep off the moisture. Then put the jars and saucers into the ground in a hole quite 9 inches from the surface; cover them up with earth, and leave them there till about Christmas-time, when they should be dug up and eaten. The small Potatoes should be put into the jars immediately they are first dug up."

H. A'C. PENRUDDOCKE.

* "The Potato Book," by J. C. Newsham, F.L.S. Published by C. Arthur Pearson, Limited; price 1s.

RHODODENDRONS IN NEW ZEALAND

THE accompanying photograph, which I hope you will be able to reproduce, may be of interest to some of your readers. The tree shown is Rhododendron The Marquis of Lothian, a hybrid raised by the late Mr. William Martin of Fairfield, near Dunedin. The parents are R. Thomsonii and R. Aucklandii, now, I see, generally called Griffithianum. As the photograph shows, it is a free bloomer, and when in flower forms a picture worth going a long way to see, as its large bells are of a beautiful shade of pink, deep at first, and changing to a paler hue. The individual flowers are as large as those of R. Aucklandii. I measured one of the blooms on my own specimen of Aucklandii and found it was 5½ inches across, which is probably no larger than can be grown in the favoured parts of the South of England. The bush, or rather tree illustrated is 8½ feet in height and is, of course, of considerable

RHODODENDRON MARQUIS OF LOTHIAN IN A NEW ZEALAND GARDEN.

age. Mr. Martin, one of the early settlers of Otago, was a nurseryman and a keen lover of plants who, under great difficulties, acquired a large and varied collection, though Rhododendrons and alpines were his chief delights. For the former he had little or no market, but for the latter there was in those days absolutely no demand. For many years the only mode of getting plants from Europe was by Wardian case, carried by sailing ships which took rather more than three months, and more often considerably longer, to accomplish the voyage. From this it will be realised what a genuine plant-lover Mr. Martin was. His collection of Rhododendrons was a large one and contained many of the Himalayan species, but, of course, lacked the modern hybrids, except such as he raised himself, of which The Marquis of Lothian was the best.

Rhododendrons do very well in this part of the Dominion, and before the war upset our shipping were fairly easily imported from Home. A dry summer is rather trying for them before they are fully established, as I know to my cost, for, notwithstanding mulching and watering by hand, I recently lost two or three, including R. barbatum, out of a small lot I had imported, which would probably not have happened had the use of the garden hose not been prohibited. I think that possibly the freest-flowering and most satisfactory Rhododendron I have is The Countess of Haddington. It is neat and compact in habit, and my bush is usually so covered with flowers that hardly a leaf is visible; but R. ciliatum is also one of my favourites. R. arboreum cinnamomeum, on the other hand, does not flower equally well every year with me, but even when its white trusses are sparse it forms a striking object with its dark green leaves thickly clothed with a rich brown tomentum on the under side.

Here in Dunedin we have a Rhododendron dell which in time will rival the far-famed dell at Kew, for it contains species which cannot be grown there. Within the area set aside as the City Gardens there is some hilly ground, still partially covered with native "bush," through which runs a dell, or gully as we call it. The able Curator of our reserves has cleared this of scrub and some of the trees, but has left most of the red-barked Fuchsia trees (F. excorticata) and the gnarled old Broad-leafs (Griselinia littoralis) and underplanted them with innumerable Rhododendrons. Already it is a picturesque spot, and when the vistas through the tree stems are brightened by the flowers of the masses of Rhododendrons, to say nothing of the countless Primroses nestling below, it will indeed be a dream of beauty.

Dunedin, N.Z. A. BATHGATE.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Trollius Ledebouri.—A beautiful and remarkable Globe-flower introduced from Western China in 1909. It is without doubt the showiest and brightest of its race, the rich orange flowers more widely spreading than some, and which serve to reveal its fuller beauty. It attains 2½ feet high

and is very free flowering. From Mr. J. C. Allgrove, Middle Green, Langley, Slough.

Sweet Pea Elegance.—A very good self pink variety. Shown by Messrs. Alex. Dickson and Sons, Belfast.

Sweet Pea Mrs. Tom Jones.—A great gain in the mauve and violet shaded class, the flowers of large size.

Sweet Pea Alex. Malcolm.—The dominant colour shade of this fine variety is reddish carmine. It is very attractive. These two were shown by Messrs. Dobbie and Co., Edinburgh.

Odontioda The Prince (Odontoglossum Ernestii × Odontioda Charlesworthii).—A very remarkable hybrid, in which the dominant colour is reddish violet, with heliotrope suffused. The individual flowers are very large, the variety one of the most distinct. Shown by G. W. Bird, Esq., Manor House, West Wickham, Kent (gardener, Mr. Redden).

Miltonia Princess Mary.—A very handsome novelty of the largest size. The ground colour is white, the centre masked by rich reddish carmine. A variety of exceptional merit. From Messrs. Armstrong and Brown, Tunbridge Wells.

The foregoing novelties were exhibited before the Royal Horticultural Society on June 19, when the awards were made.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Peas.—Sow seed of Autocrat, Gladstone or Goldfinder for the latest crop. After this date it will be useless to sow more, except under very favourable circumstances. Well water the drills before sowing to hasten germination. Mulch all plants in rows which are showing flower, or indeed, later batches, as this precaution may prevent an attack of mildew, which is the bugbear of Peas during dry weather.

Globe Artichokes.—This has been a bad season for this crop. So many of the plants were killed by the severe winter that all that can be done is to secure a batch of plants for next year's supply. Encourage free growth by giving copious supplies of water and mulchings of short manure.

Cardoons.—Supply these freely with water and occasionally with liquid manure to encourage freedom of growth. As the plants progress, support them with a stout stake on either side.

Swedes.—At intervals until the third week in July sow seed of the ordinary farm varieties of the Imperial type, which are quite equal to those which are termed garden varieties. If the seed is sown too early, the roots are liable to be "woody" and the leaves attacked by mildew. Water the drills before sowing and cover the seed lightly, finishing off with a layer of short grass, which is a preventive of Turnip fly attacks.

Lettuces.—Sow thinly in shallow, well-watered drills on the Celery trenches for economy of space. Thin the plants early, which is better than transplanting during dry weather.

Turnips should be sown fortnightly to keep up a summer succession of tender roots. Sow quite thinly to save seed and to avoid overcrowding of the plants, which checks growth.

Onions are growing freely, in spite of the continued dry weather, in many parts where they are kept free from weeds and the surface soil stirred. An occasional dressing of soot will improve the growth and aid in warding off an attack of fly.

Cabbages have not hearted well this season, having made too much leafage, owing, perhaps, to the inclement weather retarding the growth. Where the plants received a fillip from the application of nitrate of soda or sulphate of ammonia, the growth is more satisfactory. If the hearts are cut and the stems left, useful sprouts will be produced in August and onwards.

Fruit Under Glass.

Newly Planted Vines should be encouraged to make vigorous growth by giving copious supplies of water at the roots and by well syringing the foliage twice daily, especially in the afternoon, closing the house early to obtain the advantage of sun-heat. Allow abundance of lateral growth as long as the leaves are not in the least overcrowded, pinching the shoots above each leaf. Keep the leader intact until it reaches the top of the house; then take out the point to aid in plumping up the basal eyes.

Grapes commencing to colour should have copious supplies of liquid manure and an overhauling of lateral growth to induce the strength of the Vine to go mainly into the berries. In the case of Madresfield Court allow more lateral growth to remain; this is a safeguard against the splitting of the berries. Give a free circulation of air, top and bottom, as an aid to the colouring of the berries. Thin all late bunches as fast as the berries swell to the size of Peas. Avoid overcropping, which is sure to display such a mistake later on, either by bad colour, shanking of the berries, or by the smallness of the latter. Any sign of red spider on the leaves, even if it be perceptible only on one leaf, should be dealt with promptly by dusting such parts with dry sulphur on both sides of the leaves. If this is effectively done, the red spider cannot live.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Greens.—As Potatoes are cleared off the ground, fill up with Dobbie's Victoria Kale or with other strains which were sown in May for the purpose. Sometimes these are recommended for summer eating, but at best they are of little value till after winter sets in, when they are delicious and remain in use later than any other "green." I invariably grow them as a secondary crop, planting vacant spaces as they are ready. Some strains are so tender as not to bear a hard frost. No strain should be planted in freshly manured soil, frequent stirring of the ground being enough to ensure a crop of fair-sized plants.

Potatoes.—Early varieties are now mature enough from which to select seed for another year. Late varieties, where grown in the garden, will have advanced sufficiently to be earthed up, drawing the soil to a sharp ridge at the middle.

Lettuces, Radishes, Turnips and Spinach should be sown at short intervals, just a little seed of each, but Spinach, where it is always in request, to a larger extent. Where the soil is dry, the drills should be filled with water an hour or so before sowing in order to ensure rapid germination.

Parsley.—It is usual to sow about this time for a winter and spring supply. When properly managed, however, this crop may be dispensed with unless as an emergency one, should the transplanted Parsley fail, which seldom happens.

Fruit Under Glass.

Peaches.—Trees cleared of fruit may have a portion of the bearing wood removed to give more space for shoots of the current year to be laid in. Later trees will require to be frequently examined to tie the fast-growing shoots and to remove the axillary growths while still small.

Grapes.—Where the crop has been cut the Vines should have all the ventilation possible, the young growths rigorously repressed, and sufficient water at the roots to keep the foliage a clean, healthy green. Later Vines with the crops swelling must have manure in some form, either when water is applied to the borders or sprinkled on the borders as a dressing. If the leafage is not a deep green, a dressing of sulphate of ammonia, followed by another of soot, will immediately bring about the desired effect. Red spider may appear in very hot weather, and is most certainly destroyed by sponging the leaves with strong soapy water. Where mealy bug is seen, the surest and safest antidote at this period is vaporising with nicotine, but not so strong as to damage the foliage.

Plants Under Glass.

Narcissi.—Bulbs for forcing and flowering inside should now be lifted, or as soon as the foliage turns yellow. Select only the very large bulbs, after allowing them to lie for a few days to dry, either planting the rejected ones at once or putting them aside to be planted later. Not much time should elapse before boxing or potting the others. If for cutting, boxing is decidedly to be preferred, and the bulbs need not be placed further apart than a finger breadth. For some time I have used no drainage other than rough material, to a certain extent composed of manure; and once growth commences, a coating of half soil, half manure, is applied to the surface. The bulbs need be covered now only to save watering so frequently as would be necessary were they left exposed. Place in a shaded position for preference.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

A COLUMN FOR THE CURIOUS

"POMPON" OR "POMPONE."—Rev rting to the question of "Potatos" or "Potatoes," here is another case which has recently arisen. For many years the small-flowering double Dahlia has been known in the various publications of the National Dahlia Society as "Pompon," as, indeed, it has been elsewhere. The Dahlia men evidently adopted the term on account of its appropriateness when compared with the Pompon Chrysanthemum. Now in this year of grace 1917 it will be noticed that the new schedule of the National Dahlia Society has been systematically gone through by somebody—advertisements and all—and the long-used imported French word which had practically become acclimatised now appears as "Pompone."

I ask, Why this extraordinary departure from an established rule of long standing? There is no such word as "Pompone" either in English or in French. Surely before making any alteration it would have been prudent on the part of the person responsible for this innovation to enquire whether there was any justification for a change. In passing, it may be observed that this is not a case like the plural of Potato—there is no analogy. "Pompone" is a "fake"; it looks as if it were a feminine adjective, but it is not. "Pompon" is always masculine in French, even when used adjectively, and so, too, is Dahlia.

It would perhaps be unkind to say of the author of this change that "il avail son pompon" when he commenced his work, but it is certain we may say "pas à lui le pompon pour bien connaître le française."—C. H. P.

SOWING CUCUMBERS AND MELONS.—While I am generally disposed to support "T. A. W." in what he says on the above on page 157, it might interest him to know that the conclusion I arrived at, after raising many hundreds of Cucumbers annually over a period of twenty-five years, was, to use his own words, that "there was nothing in it." Those sown singly in pots were invariably upended in true orthodox style, but, in order to have enough and to spare, a supplemental batch sown in boxes were as often as not sown on their sides, and so far as one could see there was no appreciable difference between the two. Much more harm is likely to ensue from over-deep sowing or too firm or too moist a soil, all of which are to be avoided. Seed sowing on the flat with either of these may prove disastrous. A brisk heat, with soil that is moist enough to require no watering for twenty-four or thirty-six hours after sowing shaken into the pots and the seeds covered lightly are, with good seeds, the essentials in the case. Too firm a soil with too deep sowing of the seeds are prolific sources of failure, since the plants, strong and robust enough in after-life, appear highly sensitive and opposed to these things at the time of vegetating. It is this fact, I think, which tells against them rather than that any failure which may arise is due to either radicle or plumule having to adapt themselves to circumstances. Countless thousands of seeds in Nature, field or garden have of necessity to do this; and a bulb, though turned topsy-turvy in the soil, will invariably be found with its root fibres and leaves in those directions in which Nature intended they should be.—E. H JENKINS.

PLANTS ON A SMALL MORAINE GARDEN

By T. ASHTON LOFTHOUSE.

MR. REGINALD FARRER contributed to THE GARDEN in May, 1913, a very interesting list of plants (fifty) suitable for the moraine garden, with a few introductory notes thereon. At the time I was just laying out a small moraine, on which since I have planted about three parts of the species mentioned therein; some of the others did not appear in any of the lists that I had or were too much of a luxury for present times. I am sending the following notes on the plants in the above list of which I have had experience, and also, in brackets, of a few additional species that I have planted thereon.

My moraine is a built-up one, having the sides roughly built up with sandstone; it is about 7 yards in length and averages 1½ yards to 2 yards in width, with a flagged footpath all round. It is divided into three parts, and varies in depth from 3 feet 6 inches at one end to 2 feet at the other, 6 inches of the depth being below the ground or footpath level. All the sections had a bottom of rough broken bricks, and on top of these a good layer of sand. The first upper section had the top part filled in with whinstone chippings, the lower portion having limestone chippings mixed with them in about equal proportions. The middle portion was just filled in with whinstone chippings (this, not being altogether satisfactory, has recently been made into a peat moraine), and the bottom section, and shallowest, is made in the upper part with whinstone and limestone, and in the lower part practically all limestone. (The upper and lower sections have a perforated pipe laid in under the surface for watering below in dry weather.) Since it was made, many of the plants have been so frequently mulched with limestone, old mortar or plaster ground up, sand, granite chippings, &c., that it is difficult to say exactly what the constituents are now in some of the parts. It has an open aspect to the south and south-east, and is sheltered from the west and north. While this, on the whole, seems to be satisfactory, it has one drawback, and that is that many of the flowers in spring and early summer get bleached through the frosts which often occur with us at that period of the year.

Androsaces.—A. primuloides and A. villosa, planted on the edge of the moraine, the former, hanging over on one side, flowers well without protection. A. villosa, which is in a flatter position, has glass protection in the winter. They have both increased considerably since planting. It is usual for all my Androsaces to be mulched once or twice during the year with a limy compost.

[The illustration depicts A. primuloides in Mr. W. A. Bilney's moraine garden at Weybridge, where this species has flowered in great profusion this spring.—ED.]

[Other Androsaces on the moraine are A. lanuginosa, which grows very freely and is really too free for this purpose; A. Chumbyi, and the following, which seem to be better for protection during the winter: A. sarmentosa, growing very freely and flowering beautifully; A. Watkinsii, a recent addition, with somewhat similar rosettes to the latter, but the flower is much deeper coloured and it is, in my opinion, a desirable addition. Unfortunately, a severe frost on the night of May 6–7 caught nearly the whole of the flower-buds and they never developed properly. A. Chamæjasme.—My representative of this species appears to be very much like A. villosa, both in rosette and flower (the rosettes, if anything, seem to be greener). It has not made much progress, having been checked somewhat by slugs, which exist on moraines (and prosper if not carefully watched for) as well as in other parts of the garden. A. sempervivoides, A. Vitaliana and A. carnea are all recent additions that seem to be quite happy. The first and last flowered well and are quite good varieties, but only a single yellow flower appeared on A. Vitaliana, which I understand is only a shy bloomer.]

(*To be continued.*)

SOME NATURALISED ALIENS

(*Continued from page 239.*)

By NORMAN G. HADDEN.

THE Spur Valerian (Centranthus ruber) is established on so many walls and cliffs throughout the country that it is hard to realise that it is but an alien; it has probably done more to beautify otherwise ugly walls than any other flower, the cliffs at Barmouth and similar places being a blaze of colour when the Valerian is in bloom. It becomes especially attractive at dusk, when the flowers are visited by dozens of fine moths, notably the lovely pink and green hued Elephant Hawks, which seem to prefer this to any other plant. Equally abundant in similar situations is the dainty little Ivy-leaved Toadflax (Linaria Cymbalaria), and occasionally one may find the much rarer, tall-growing Linaria purpurea, a noteworthy addition to our wall-top flora.

ANDROSACE PRIMULOIDES IN THE EDGE OF A MORAINE.

Erinus alpinus is a pretty little plant with rosy mauve flowers which is firmly established on the Roman Wall in the North of England and in a few other stations. I have seen it in abundance on a high wall near Monmouth, where it was quite an attraction to passers-by, but it was here probably a garden escape.

Quite a host of alien composites are more or less established in England, but they are mostly "undesirables," like the plebeian Matricaria suaveolens—an American importation devoid of all beauty and with all the attributes of a tiresome weed—which is rapidly spreading across the country. Orange Hawkweed (Hieracium aurantiacum) is handsome when seen in a mass on some rough bank or old wall, but it is far too invasive to be encouraged in the neighbourhood of a [illegible]. A more interesting composite is the silvery-leaved Senecio Cineraria, which has made itself at home on the limestone cliffs at Torquay. Its rather inconspicuous yellow flowers are amply atoned for by the large, deeply cut, velvety grey leaves which lend quite an air of distinction to the cliffs which they adorn.

Many of the banks of the Great Western Railway have been beautified in recent years by masses of the Oxford Ragwort (Senecio squalidus), so called because it made its first appearance at Oxford. It is a decidedly handsome plant and has brightened up many an ugly siding with its large golden flowers; in the neighbourhood of Worcester it is abundant and has hybridised with some of the native Ragworts.

Only two alien members of the vast tribe of Umbelliferæ are worthy of notice. The first is Astrantia major, established in woods near Ludlow, a familiar garden plant of quiet and refined beauty; the other is the shrubby Spanish Bupleurum fruticosum, which is sometimes planted in shrubberies and game coverts. It is becoming naturalised on the Malvern Hills, whither it has spread from the gardens of the late Jenny Lind. Being so very unlike the British species of Bupleurum, it proves a very puzzling plant to amateur botanists. The so-called Tea Tree (Lycium chinense) is another shrub that puzzles many people, as it is not to be found in all our floras. It has been cultivated in England for many years, and when covered with its oblong red berries is quite attractive, though the dingy purple flowers are not showy, and its habit is straggling. It is completely naturalised along the shore of the Bristol Channel at various parts of the Somerset coast, and occurs here and there inland also.

Of foreign herbs which are relics of cultivation, the true Balm (Melissa officinalis) is the most welcome for its deliciously lemon-scented foliage; it seems quite capable of holding its own among our native plants.

Only a few aliens are to be found among the monocotyledons, but all of these few are of great interest. Most precious is the Primrose Peerless Narcissus (N. biflorus), which carpets many an old orchard in the West Country just after the last of the Daffodils are over. It must have been established here for many a long year; possibly it was introduced by the monks. Several species of Crocus are established in parts of Suffolk, and in one spot in North Devon there is a colony of the orange yellow Pyrenean Lily. The quaint

little green and black Snake's-head or Mourning Widow Iris (Iris tuberosa) is admitted to the British flora on the ground of being naturalised about Penzance and Cork.

Whether our one and only British Tulip is a genuine native or a long-established alien seems to be a disputed point; at any rate, one wishes it were more plentiful and less shy about flowering. It seems to waste all its energy in multiplication of offshoots, rarely producing a flowering bulb. I know of one locality in Worcestershire where hundreds of the grass-like leaves can be found, but seldom more than half a dozen of the beautiful yellow fragrant blooms.

FLOWER GARDEN NOTES

By Mrs. C. W. Earle.

JUNE is the month during which we always put out the half-hardy plants in tubs and pots on a low wall in front of the house. It is, I think, a fascinating and amusing kind of gardening, particularly suited to small places, as long as the plants can be housed free from real frost in the winter. It permits of every kind and size of pot and tub, the more variety of shape and size the better. Seakale and Rhubarb pots turned upside down are most useful, and Mrs. Watts' pots from her pottery near Guildford are so heavy that they do not blow over, which sometimes happens if the plants are top-heavy. This kind of gardening is much more common abroad, where the winters are severer than those in England. All my old plants of "Geraniums"—I was going to say, but that is wrong; all plants of that family which grow north of the Equator are rightly called Geraniums, and all that come from south of the Equator with their countless descendants are Pelargoniums—well, all my large and handsome Pelargoniums which had braved many winters with very little protection died this last winter, and I have to begin again. I think the deaths came partly from neglect and partly from the places where they have been stored before not being sufficiently frost-proof. This winter has taught me that old half-hardy plants have less resisting power than younger specimens of the same kind; this may be from the sandy poverty of the soil. I must try putting some of the best-grown plants of Pelargoniums in strong paper bags this autumn and hanging them up in a spare room head downwards. Several survive that way, especially if potted up early in the spring. The sweetest of all the sweet leaved Cape Pelargoniums is called Prince of Orange, but it is rather more tender than some of the others, so a potful of cuttings should always be kept.

In the Botanic Garden of Padua, which is the oldest medicine garden in the world, the most effective flower is called Diadinatum. I saw English wild plants potted up to keep them in heavy shade through the hot weather; and the same was to be noticed in the Botanic Garden at Florence. Here we have to fight cold and damp with little room and the sh rtage of coal and coke. I have two old plants of the beautiful single Datura, Brugmansia Knightii, too large for pots; they are planted out each year in a warm corner and well watered, and they flower beautifully in August or September. They are cut round in late September, and when they begin to flag they are taken up and crammed into pots in October. Thus treated, they have lived for years. The double sweet Datura wants more care, and can be grown best in the earth in a greenhouse or in a pot for the wall. They ar Mexican plants, I believe. The pure white ones without a tinge of lilac are the most beautiful. A sunny situation and plenty of water are all they want in summer. The tallest plants on the wall this year are two old Oleanders, the pink and white; they do not flower as well as they did when younger, but we have had a spell of cold summers. We have repotted them in old tubs, and their long, waving branches and pointed leaves remind me of happy trips abroad and tubs in front of small cafés in countries with colder winters than ours, where they are kept in cellars all the winter. Other years I have always had the best and most uncommon shrubby Veronicas in pots, but these were all killed this winter. I had become careless, as they had proved so hardy in other winters, and neglected to keep cuttings. Traversii, with an ineffective flower, seems really hardy. The most unusual plants this year on the wall are two pots of Erythrina Crista-galli, which do well, but they have to be staked. I first saw them in pots in the Duke of Hesse's garden at Friedberg. A plant of Impatiens Olivieri, from Uganda, also makes a change, but I am not quite sure it will stand the cold wind we sometimes have in summer. I have never tried it outside before. Myrtles flower well in pots, and at each end there are two half-tubs filled with the blue Agapanthus. The irregularity of height, colour, size and shape makes the charm, to my mind, in a garden where profusion and picturesqueness is the object—not tidiness and uniformity.

THE FIELD OF KOSSOVO

A FEW days ago it was our pleasure to meet the Rev. Father Nicholas Velimirovic, a genial and charming personality who was Priest-in-Waiting to King Peter of Serbia and Professor of Theology at Belgrade University. Father Nicholas is a preacher of repute, and is now well known in this country. His love for Serbian flowers and the folk-lore of his native country amounts almost to a passion. The following legend on red Pæonies will be read with interest, particularly as the anniversary of the Battle of Kossovo is now being celebrated.

A SERBIAN LEGENDARY FIELD OF RED PÆONY

Where fell the blood of the horses,
There grew up the long green grass;
Where fell the blood of the heroes,
There blossomed the Pæony red.

The Field of Kossovo is in Central Serbia. It is five times as long as it is broad. Two rivers cross the field—Sitniza River and Lab River. A beautiful church—Gracaniza—has stood there since the beginning of the fourteenth century. Many ruined churches lie all over the field. Specially famous is the ruin of a church—Samodresha—in which the saint King Lazare prayed with all the Serbian Crusaders. Not far from there is a Mohammedan chapel, with the tomb of a great Turk, Sultan Murad, who lost his life in the struggle against the Serbians. Some scattered and poor villages, a melancholy population, wonderful sunshine and still more wonderful starry sky; woodless hills all around the field; the bushy red Pæony and a great story—that is all. But the story is a really great one.

In June, 1389, the Field of Kossovo was thickly inhabited, and a joyful people sang with a choir of nightingales among the white Pæonies. *White* Pæonies! Many rich villages, beautiful white towns, stony churches, pious nobles, gorgeous merchants, exporting gold and silver from a neighbouring mountain of the field; a lofty army, many visitors from Byzantium and Venice admiring a youthful Christian nation—so it was.

But the storm came. A storm with hail. And the storm with hail was the Turk, the Unfaithful. It was not the first struggle, but the last and decisive one. The first was under King Dushan, who proceeded with the Serbian Crusaders to defend Constantinople, the Orthodox Sancta Sanctorum, and sacrificed his life; the second was under King Vukashin (1371), who fought near Adrianople, and gave his life for the Cross; the third was at Plocnik, under the victorious Voivode Milosh. In June, 1389, was the last and decisive one. On that twenty-eighth day of June rain was falling as the two splendid armies met, the one fighting for Christ, the other one against Christ. The white Pæonies were bathing in the warm rain. The rain stopped in the evening, and the field was red with blood. The Serbians made the supreme sacrifice for Christ: the King and the nobles, the dukes and the whole army laid down their lives for the greatest ideal. The Serbian Kingdom perished, and the Serbian material glory vanished. But Christ remained with the Serbs, Christ and the glorious story of the supreme sacrifice on the field of the white Pæonies. White? No. No human eyes ever since saw them *white*. From the following day of the battle they became *red*, and all the following generations of Pæonies grew red; not one made exception. Some say they grew red from the blood of the heroic Crusaders; some say they grew red because they blushed at seeing the Turkish devastation of the field and their oppression of the Christian people; some say they grew red as a symbol of suffering, with hope of resurrection for the oppressed ones. But the first interpretation prevails among the Serbian people.

"Our friends, the red Pæonies, will again grow white when the Field of Kossovo is liberated and the Serbian people free." So spoke the Serbian mothers to their children in the poor villages during 500 years. The mothers died and the children died, generation after generation. In 1912 the old King Peter came with a lofty army and liberated the Field of Kossovo. Now, we all expected the red Pæonies to change their colour and dress in their cloth of old. But they did not. Why? "Why do not our friends, the red Pæonies, change their colour?" That was the question we asked. But they were solemn and silent, and grew still redder. We could not explain their attitude.

But now we know. Three anti-Christian armies with three anti-Christian kings attacked Serbia, and stamped her people down. And Serbia has been filled with blood, and cruelties, and awful sufferings, far more awful than those of 500 years ago. We did not foresee it, but the Pæonies did. We believed too much in the Christianity and civilisation of Europe to be able to foresee such a wicked storm with hail from a sky that we believed to be bright and blue. But our red Pæonies were sceptics and prophets.

And yet . . . we believe that sooner or later our friends the red Pæonies will dress themselves in white. They do not hurry. They await the moment when the whole Serbian people, with all their suffering brothers under the anti-Christian Cæsars, shall dress themselves in joyful white, and then they also will change their bloody colour.

This is the story which has been whispered always in the lands of the Serbs, but which has been vividly told every year, especially on June 28, on Kossovo Day, the National Day of the Serbian race, the celebrated day of the Supreme Sacrifice.

(Rev.) Nicholas Velimirovic.
(Of St. Sava's College, Belgrade.)

Dumfries and Maxwelltown Allotments.—Through the medium of the Dumfries Public Health Committee and the Allotment Holders Association a series of prizes will be given in Dumfries for allotment holders. Maxwelltown Allotment Holders Association has also agreed to a prize scheme, and the Dumfries and District Horticultural Society will also give prizes, some of these going to allotment holders who contribute to the Society's Gift Sale on behalf of war charities in August. Maxwelltown Allotment Holders Association has asked Provost Arnott to formally declare the five divisions of the burgh allotments open on June 30.

Edinburgh and Leith Allotments.—A two days exhibition of produce grown by allotment holders in Edinburgh and Leith has been arranged and will be held about the end of September. A complete list of prizes has also been prepared. In all upwards of 130 will be offered, these applying to the vegetables most used, special notice being taken of Potatoes. Prizes will also be given for the best kept and cropped allotments. To avoid possible hardships through the different

conditions in the several districts, a series of areas has been arranged for the allocation of the prizes.

The American Pæony Society.—We have recently received the "Bulletin of Pæony News, No. 3," with also a letter of invitation from the secretary, Mr. A. P. Saunders, Clinton, New York, giving the history of the society and showing reason for all and sundry who are interested in the flower to join. It appears to be wonderfully popular in America, and the enthusiasm of this society seems to be unbounded. In the report on the exhibition held in co-operation with the Horticultural Society of New York, it is said that over 16,000 visitors attended in three days, and on Sunday afternoon there were 7,933 visitors. There is a chapter on using Pæonia lutea in cross fertilisation, and especially with the herbaceous species. Success with these has not yet been attained, and considering the great difference there is between them, success, one would think, is hardly promising. P. Wittmanniana is mentioned, and the colour is referred to as really only a creamy white. It can be much better than this, and it may be suggested, therefore, that better forms should be enquired for. It varies greatly and we think crosses. We have one with flowers of beautiful shape, nearly white, but shaded with rose; a neighbouring plant with identical foliage has flowers of fairly deep magenta, and it seems likely, therefore, that they have all come from a natural cross. American publications, even the most scientific, often fail to give the botanical name, and as we on this side know nothing of the popular names, it is impossible to know what plants are referred to. In a similar way the species of Pæony are not mentioned in this, and though Pæonia albiflora may be understood, probably there can be no certainty that P. officinalis and P. Moutan do not come in. From the address of the president at a meeting of the society at the Hotel Astor last June, we learn that there was to be a Pæony Manual, and in this, if well carried out, we shall take great interest.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

INJURY TO ORIENTAL POPPIES (*R. E. L.*).—We regret we are unable to say from the specimens sent what has damaged the Poppies. Oriental Poppies often go off in this fashion, and usually through some soil pest nibbling at the base of the growths. It would be well to dig about them to ascertain whether any such are there.

ASTILBE GRANDIS (*F. S. J.*).—This is one of the hardiest of its race, and also one of the noblest herbaceous plants. It is one of the many good things found by Mr. Wilson when plant-hunting for Messrs. James Veitch and Sons in the mountainous districts of Western China, and has been long enough cultivated in this country to prove its high value and ornament. The species attains 6 feet or more high, sending aloft creamy white plumes from a handsome spreading tuft of leaves which are from 2 feet to 3 feet in length. Like all the Astilbes, it loves strong soil and moisture, and by reason of the lateral spread of its leaves—an established clump may be 6 feet or more across—is better suited to isolated positions than to the ordinary border. The cool or wet places of the combined rock and water garden suit it well, and, given a prominent place, it commands attention for a long season in or out of flower. It is, of course, a deciduous herbaceous perennial, and dies down each year.

HOW TO TREAT VIOLAS (*B. O'L.*).—As the Violas are now flowering for the second year, it is unlikely—unless the soil conditions are of an exceptional character—that they will pay for leaving for another season. The remedy is to increase them by means of cuttings or division of the root. In either case, when the flowering is completed or the growth has become so straggling as to be no longer desirable, the plants should be cut down practically to the ground-level. Should you decide to increase them by means of cuttings, lightly fork up the soil on each side of the plants, apply a mulching of fine rich soil, adding a little to the centre of each, and keep the plants watered daily for three weeks or a month. At the end of that time each plant should be bristling with new shoots, the stronger of which, if removed by a sharp upward pull, will be found already rooted. Transplant these to a reserve plot of good ground, and repeat the process till you have a sufficient number of young plants. Removing the point of growth as soon as the plants have started will give you more bushy examples. In this way you should obtain the best plants possible for putting into permanent positions early in October. This method is vastly superior to division.

FRUIT GARDEN.

APPLE MILDEW (*W. F. M. C.*).—Spraying is of little service with Apple mildew, and we recommend the pruning out at once of all the shoots showing the white spores of the fungus. Prune well back behind the attack and burn all the prunings.

MILDEW ON PEACH LEAVES (*Mrs. Macdonald*).—The Peach is attacked by the Peach mildew. Spraying with any fungicide now will be likely to damage both foliage and fruit, so we recommend dusting with sulphur. Ventilation and avoidance of draughts should be carefully attended to.

GRUB IN STEM OF APPLE TREE (*W. E. L.*).—The grub escaped in the post, but the damage shown by the stem sent looks like the work of the wood leopard moth caterpillar (Zeuzera æsculi). The moth is a white one of considerable size, spotted with black. If further burrows are discovered and they are fairly conspicuous by reason of the fresh sawdust about the entrance, thrust a wire sharpened at the end into the burrow so as to pierce and kill the caterpillar.

BARREN FIG TREE (*S. R. J.*).—We are much obliged by the two photographs, from which it appears your tree is growing in the open and not against a warm wall. Had it been grown against a wall and the treatment given to it we advised, we see no reason why it should not have borne ripe fruit. The fruit you send us has had no flowers, consequently no seeds have been formed, and as a result the *essentials* of fertility are absent. They are absent because of the want of the concentrated heat and warmth of a wall to properly ripen the shoot of last year, which bears the ripe fruit of this year. Unless your tree can be transplanted and placed against a warm wall, we fear there is little prospect of its producing ripe fruit.

KITCHEN GARDEN.

SHALLOTS TURNING YELLOW AND FOLIAGE DROOPING (*G. H. P.*).—This complaint is general this year, especially among allotment holders, the cause in most cases being attributed to wireworm or some other root pest. Failure in the growth of this plant is sometimes due to planting in too rich a soil, forcing a too rapid and succulent growth which proves unable to stand a sudden burst of strong sunshine such as we have lately had, thus hastening premature ripeness. Shallots should be planted in soil which has been liberally manured for a previous crop. The raising of new Potato varieties from seeds.—We are obliged for your suggestion, which we have made a note of. Kindly send a description of the new Brae Seedling.

BOOKS ON TOMATO CULTURE (*N. J. M.*).—Two useful books on this subject are the following: "Tomato Culture for Amateurs," by B. C. Ravenscroft, price 1s. 3d.; and "Tomato Culture for Market," by J. Stoddart, price 1s. 1d., to be obtained from 41, Wellington Street, Strand, W.C. As regards the culture of the Tomato, whether planted in pots under glass or outdoors in rich light soil, it is very simple and easily understood. Pot culture under glass.—Keep the atmosphere of the house sweet and not too hot, but nice and warm, by adequate ventilation both day and night. Tomatoes dislike to have their roots always in saturated soil, therefore bear in mind to keep the soil always moderately moist. The proper way to water a Tomato plant (or any other plant in a pot) is to wait until the soil is moderately dry and then give a good soaking, then wait until it is fairly dry again before adding more. As regards the treatment of the plant itself, the best way is to confine it to one stem, placing a stake to each stem to tie to. As the plant grows you will find that many young shoots will issue from its stem. These without exception must be rubbed off as fast as they appear. Opposite to such shoots will appear the bunches of flowers. To help each flower on a bunch to form a fruit, it is a good plan to inoculate the flowers with a rabbit's tail. This is done by gently drawing the tail over the pollen of the flower and pressing the same gently over the stigma or centre column of the flower. The plants must not be overcrowded. Each should stand clear of the other by 15 inches. Outdoor culture.—The secret of success in outdoor culture consists in providing generously manured, rather light soil of a good depth of mould (say, 18 inches), a warm, sheltered position, and good strong plants to start with. Plant in rows 18 inches apart and allow 12 inches between the plants in the row. Plant firmly and a little deeper than they have been while in the pot. Give a good watering immediately afterwards, stake securely, and place a mulch of short manure 3 inches deep on the surface of the soil over the roots of the plants. This will not only help to feed the roots, but also prevent the soil drying so quickly, thereby considerably lessening the labour of watering. Treat the stem of the plant exactly in the same way as directed above for plants under glass, with this difference—that once you have converted the flowers of three separate clusters into fruit, then you must be satisfied. There will not be time for the plant to develop and ripen more fruit. What you will have to do after securing these three clusters of fruit (or certainly four at most) is to cut off the top of the stem about 4 inches above the last cluster of fruit. After doing this you will find that young shoots in many parts of the stem will persistently reappear. Pinch these back with the finger and thumb to within one leaf or bud of their base as long as you can find any to pinch.

TREES AND SHRUBS.

DOUBLE LILAC REVERTING (*G. R. J.*).—It is not usual for the flowers of a double-flowered Lilac to become single suddenly, though it might easily happen that a plant of a double-flowered form should revert to the single-flowered type. The flowers may be double next year, or they may now remain single.

SUCKER GROWTHS ON LILAC (*J. F.*).—Your white Lilac bush had apparently been grafted upon a stock of common Lilac. From the stock, suckers have grown on unnoticed until they flowered. You have done quite right by cutting them down, but they ought really to be removed below the soil-level and close to the roots. Other suckers will doubtless appear, which should be removed at once. Your bush is not likely to suffer through the removal of the suckers, and it will not require any special attention except in the event of the soil being poor. Should that be the case, give a top-dressing of decayed farmyard manure.

MISCELLANEOUS.

PLANTS FOR HANGING BASKETS (*A. H. R.*).—Besides the many double and semi-double varieties of Ivy-leaved Pelargoniums which are of such value for furnishing hanging baskets, there is an old and at one time popular kind whose merits for this purpose might be more generally recognised than they are now. The name of the variety is L'Elégante, a plant of free growth, with true Ivy-like leaves of a deep green, broadly margined with white. Under the influence of sun and air the white becomes heavily suffused with pink, and in that state it is very attractive. The flowers are single, pale in colour, and of no particular merit. For furnishing a small or medium-sized basket this Pelargonium may be used alone, but for a large one a good effect is produced by a central plant of some scarlet variety, margined with this variegated-leaved kind. Fuchsias, too, are particularly suitable for hanging baskets, especially those of loose habit and great profusion of bloom; while much the same may be said of tuberous-rooted Begonias. Of these last there is a race of markedly drooping habit which eminently fits them for growing in baskets. Other suitable basket plants are Petunias, the loose-growing Lobelias, including the large-flowered L. tenuior; Tropæolums of sorts, and the old and well-known Creeping Jenny. A very distinct and attractive plant for this purpose is Lotus peliorhynchus, whose shoots, which hang down for a considerable distance, are clothed with finely cut, hoary leaves and bear a profusion of red, lobster-claw-like flowers. With regard to arranging the baskets, you say nothing as to their size; hence we are unable to advise further. Concerning the book on "bedding," the practice of bedding out flowers either for winter or summer is at the present time condemned by so many that such a work would not be appreciated now. Perhaps in more peaceful times the beauty of flowers will be appreciated as much as ever.

NAMES OF PLANTS.—*Mac, Deal.*—We believe the Rose to be Mrs. Edward Mawley. If often produces varicoloured flowers on the same bush.——*C. A. Waldron.*—1, Fremontia californica; 2, Actinidia arguta; 3, Lardizabala biternata; 4, Akebia quinata.——*E. M., Parkstone.*—1, Æthionema grandiflorum; 2, Phlomis fruticosa.

SOCIETIES.

GARDENERS' BENEFIT SOCIETY.

THE monthly meeting of the United Horticultural Benefit and Provident Society was held in the Royal Horticultural Society's Hall on Monday, June 11, Mr. Charles H. Curtis presiding. Two new members were elected. Two members over the age of seventy years were allowed to withdraw £45 from their deposit accounts, and two members withdrew a double amount of interest amounting to £3 19s. 6d. Notifications of death were received of Privates G. E. Sanders and W. F. Bull, and the sums standing to their credit were passed for payment to their nominees. The sick pay for the month on the ordinary side amounted to £50 18s., on the State section to £18 16s. 8d., and maternity benefits to £9. Owing to the Registrar-General disapproving of the separate rule book for the admission of juveniles, a special general meeting will be held on July 9 at 8 p.m., at the Royal Horticultural Society's Hall for the adoption of a partial amendment of rules to the rule book. Mr. Charles H. Curtis will preside, and it is hoped that everyone who can will attend.

DUNKELD ALLOTMENT SOCIETY.

ON Thursday, June 14, at the Sheffield University, the Dunkeld Allotment Society organised its first public lecture. This was given by Mr. E. T. Ellis, his subject being "Vegetable Pests and Soil Cultivation." Mr. Ellis dealt with the subject in a simple, practical manner, and illustrated his lecture with charts of the principal pests. Great interest was shown in the lecture, nearly 200 people being present.

TRADE NOTE

APPOINTMENT.

WE learn with pleasure that Mr. S. W. Goodman has been appointed a director of the Molassine Company, Limited, in the place of the late Mr. W. A. Owston.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.* 2.

*** *The Yearly Subscription to* THE GARDEN *is: Inland* 10s. 10d.; *Foreign* 13s.

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

THE COMING MOULT

ALREADY letters are reaching me from readers of THE GARDEN in which advice is sought on the forthcoming moult. If I am a little previous in dealing with the moulting period in this week's article, it is because I always like to be well in advance with my notes. Thereby I am able to save my students much disappointment at a later date. One of my many maxims for the would-be successful poultry-keeper runs: *Work to a schedule and do everything at the proper time.*

Many Considerations.—When studying methods of management during the moult, the poultry-keeper has to bear in mind many considerations. This is so in all seasons, but more particularly this autumn, when poultry-keepers will be reducing their stocks. In the average poultry-yard there will be three flocks of fowls: (1) Hens that are to be retained for laying purposes after the moult; (2) hens that are to be disposed of prior to the moult; and (3) pullets of the current year's hatching which are to be depended upon for winter eggs. I will here take flocks Nos. 1 and 2, and it will be noticed that each calls for different methods of management.

Hens for Winter Laying.—It is highly essential that those hens the owner intends to retain for winter eggs should be carefully handled during the moult. If the fowls are left to themselves, progress will never be made. Some members of a given flock will be half way through the moult before others commence to cast their old plumage, and so on. It is, in short, another instance of my *automatic* hen, which, when gently coaxed and guided by her owner along definite lines, proves a success in every way. The owner must work as far as is possible to a scheduled time. The moult usually commences at the end of July or early in August, although if no steps are taken to encourage the casting of the old feathers, it will be very much later. Again, if a prolonged haphazard moult is allowed, the hens concerned will be very late in commencing to lay again. The object should be so to handle a flock of hens that all commence to moult at about the same time and all start to lay again within a few days of each other.

Eggs versus Moult.—From the start the owner must make up his mind that he cannot have both eggs and the moult at the same time. It is here where so many go wrong. The schedule I always try to work to systematically allows for the casting of the feathers to commence about the first week in August, the moult to be nicely over towards the end of September, and the birds to start laying about mid-October. Several weeks should intervene between the finish of the moult and the laying of the first egg, and it is during this time that the hens get settled down comfortably to their winter quarters. As the end of July or beginning of August approaches, each flock should be carefully watched. If many of the birds are laying, they should be discouraged, so that they can think more of the moult than of the nest-boxes.

To Prevent Laying.—There are many ways of discouraging laying. One plan is to change the hens to fresh quarters, where the new environment will help to check egg-production. The best method is to reduce the rations and to withhold food that will force eggs. Animal food should

The above snapshot depicts part of the rearing grounds on Mrs. Goodwin Preece's Crosshill Farm, near Shrewsbury, where pedigree laying strains are specialised in. In the foreground are seen two girl helpers.

be entirely dispensed with, and the feeding should be sparing. In normal times I have always discarded the soft food for a time, a practice that might be adopted by those who can obtain plenty of tail corn and poultry grain. From the start too warm housing and confinement should be put into operation. I do not mean by this that the fowls must be cooped up in a small orange-box type of house. It is during the moult that the scratching-shed type of house comes in most useful. The hens need protection from all inclement weather and bitter winds, and they will quickly commence to moult and get their new plumage in the normal time. The fancier moults out his prize birds as if they were hothouse plants. The houses are artificially heated in many cases, and full use is made of cosy barns or lofts above stables. The utility poultry-keeper need not trouble about artificially heated structures so long as he keeps his fowls warmly accommodated and fully protected from elements that retard moulting, and consequently make the hens "hang in the moult."

Occasional Outings.—One need not remain too loyal to the confined quarters idea, as occasional outings can be allowed at times when the weather is favourable. Sometimes the fowls can be allowed out during the morning and at others in the afternoon. Due regard must in all cases be paid to the outer elements. Within a short time under this method of handling the moult will be well on its way. As the new feathers begin to appear, the owner can go back to a more liberal menu and give a tonic in the drinking water. A strengthening tonic is necessary, because the moult naturally places a strain on the system of each bird. Throughout the moult succulent greenstuffs should be given daily, and to the soft food a little flowers of sulphur should be added twice a week. Sunflower seeds will come in most useful to promote the growth of the new feathers, as will linseed. The latter should be well boiled in water, half a pound being used for about half a gallon of water, and the whole should be mixed with the soft food. From the time that the moult is well in sway an iron tonic (given in a glass or earthenware drinking receptacle) can be given to advantage two or three times a week. A good stock medicine can be prepared by dissolving half an ounce of sulphate of iron in a quart of boiling water. As a dose add one tablespoonful of the mixture to each quart of drinking water.

Late Moulting.—The moulting period may last normally for six weeks, but if the birds are not well handled it may be prolonged for many months. It should be remembered that the earlier the moult is over the sooner will winter eggs be obtained. A late or prolonged moult is entirely against successful winter egg-production. The cold weather sets in while the hens are still in the moult, with the result that the birds "hang in the moult" and laying is late. It is most difficult to get birds into lay after a prolonged moult when the cold wintry elements have set in. Such hens will invariably postpone laying until after Christmas, when the better weather comes along. That is why so many poultry-keepers have such bad egg-yields in the winter months from their hens. It is all a question of management.

Cleanliness in Housing.—Clean housing is a great aid to moulting. The feathers should be raked up daily, and greenery not eaten should be collected and removed each day.

Where the flooring of the house or run is of earth, it should be dug up and turned over once, if not twice, weekly, and everything should be done to make the birds comfortable. Adult male birds intended for the next breeding season should also be carefully handled during the moult. They should be housed in flocks away from the hens. To prevent fighting when the birds are placed together each male must have its legs tied. A little of the string should hang loosely between the legs, so that the bird can walk but not run. When they seem settled the strings can be cut. The idea has its amusing as well as practical side, as readers will discover. It is, however, the only way of preventing severe and continual fighting when many males are run in one flock.

Disposing of Hens.—As regards the handling of hens that are to be disposed of, it is very wise to obtain as many eggs as possible from them before they are parted with. One should dispose of them before the moult takes place, and here is where skill in management comes in. With the hens to be retained for winter laying, as I have pointed out, an early and normal moult is necessary.

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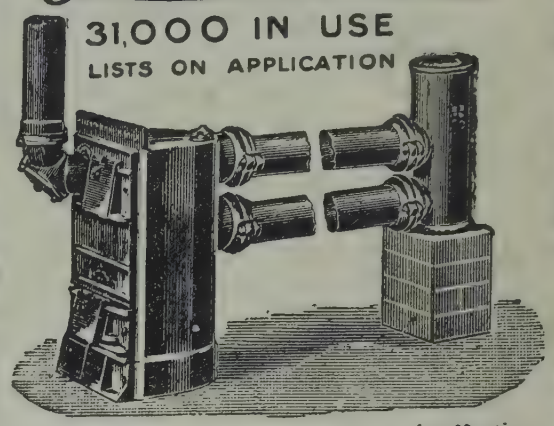

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THE GARDEN, JULY 7, 1917

THE GARDEN

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A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

OL. LXXXI.—No. 2381. SATURDAY, JULY 7, 1917.

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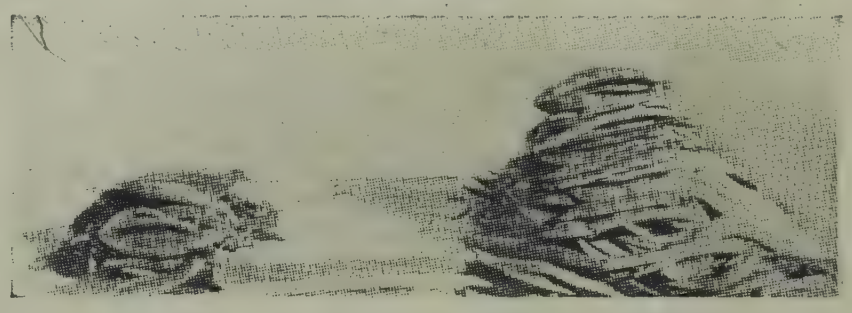

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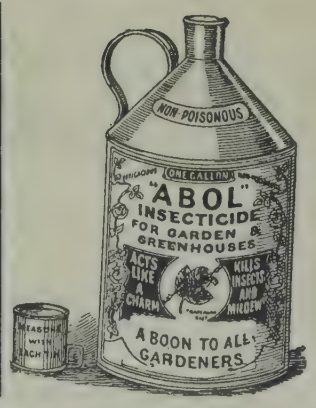

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THE GARDEN.

No. 2381.—Vol. LXXXI.] [July 7, 1917.

NOTES OF THE WEEK

Potato Prospects.—Speaking generally, the Potato crops are looking well, although there are complaints about spindly growth and the effects of drought, while many acres of Potatoes in low-lying districts at Halsall and Barton, near Ormskirk, were recently damaged by severe frost in the night, the haulms being completely blackened and withered. Such frost at the end of June has not been experienced for two decades. Fortunately, disease has not yet done damage of much importance, but no time should be lost in carrying out the first spraying, if it has not already been done.

Spraying Potatoes.—In a special leaflet issued by the Board of Agriculture and Fisheries on spraying, the following passage occurs: "The grower who neglects to spray is a danger to his neighbours, for the disease, when once started, spreads rapidly from one plot to another." It is in these circumstances that Potato spraying should have been made compulsory, since the apathy, indifference, lateness of action or ignorance of the few may be attended with very serious results, particularly in those instances—as is the case in the district from which we write—where a few hundred allotments are congregated together. Unfortunately, the erroneous idea has gone forth that on newly turned-up land the Potato crop will this year be immune from disease. We have, however, in every case that has come to our notice, endeavoured to show the fallacy of such a theory, though in some instances, we fear, our words have fallen upon deaf ears. This is not to be wondered at when it is remembered that many thousands are cultivating garden plots this year for the first time and, while ignorant of the first principles of cultivation, know nothing whatever of plant diseases, much less the serious nature of their attacks upon certain crops. In such circumstances it were better that local authorities—urban councils and the like—had been invested with power to spray rather than that it should be optional with the allotment holder, who, in the words of the leaflet, may be "a danger to his neighbours." Amateurs and others having small plots, and who mean to do their best to keep the disease at bay and have not gone to the expense of purchasing a knapsack or other spraying machine, will find the "Abol" syringe useful, particularly if the turned or bent nozzle is used. The ordinary syringe is of little good. Moreover, it is wasteful of material. The efficacy of spraying against Potato disease lies not in the abundance of the material employed, but in ensuring that a fine mist gains a lodgment on all parts of the haulm—the under surfaces as well as the upper surfaces of the leaves—in order that the plant may be rendered immune from attack, the primary object of spraying being to prevent disease. Nothing in the vegetable garden at the moment is more important than this, and those who would keep their Potato quarters healthy and free from disease should take the work in hand at once. Spraying is best done in the morning or evening, or during a dull time. The period of strong sunshine should be avoided.

Blanching Leeks.—It is safe to assert that in Southern Counties at least the cultivation of the Leek is less understood than that of almost any other vegetable. Nine people out of ten are under the impression that growth should first be made and the blanching done afterwards, whereas the blanching of the Leek should begin immediately the plants are put out in their final quarters. Large or medium sized Leeks are preferable to small ones; in this respect the Leek may be an exception to other vegetables. As pointed out in the practical article on page 258, the blanched stem of the Leek should be from 12 inches to 15 inches long, with a uniform circumference of about 6 inches throughout.

Filling Up the Blanks among French Beans.—Where blanks occur they should be made up at once with other plants too thickly set in the rows. Eighteen inches apart is none too wide to allow the plants if they are to maintain continuous cropping, and where they are very close it will well repay thinning them out to not much less than that distance. We are assuming that vigorous-growing varieties, such as Canadian Wonder, are grown. Very dwarf varieties are of little value for main crops, lacking as they do the vigour to go on cropping.

AN AVERAGE SAMPLE OF WHOLESOME LEEKS.

Horse-radish Ale.—In the days of Pepys Horse-radish was used for making an ale, though whether it was taken as a beverage or for medicinal purposes is not clear, but as he considered the drinking of it worthy of special mention, one may conclude that it was not in common use. This was in September, 1664, while in February, 1661, he wrote that he ate some Nettle porridge made for him by Mrs. Symonds. No mention is made of the preparation of either, but an old herbalist gives the following for Horse-radish: "The Horse-radish root, whole or cut to pieces, is put into diet drink, to sweeten the blood; and the eating frequently and in quantity is good for rheumatism; as an external application in rheumatic affections there are few remedies to compare with the juice of Horse-radish, and it will also relieve the palsy." Evelyn, in his "Acetaria, or a Discourse on Sallets," says Horse-radish is an "excellent universal condiment," and that if first "steeped in water and then grated and tempered with vinegar in which a little sugar has been dissolved, it is mustard to the sallet," and is good "likewise for any dish besides."

Horse-radish Still Popular.—The greatly increased market price of Horse-radish roots shows that its use as a condiment is still popular, and it is an important element in at least one well-known sauce. It is still used in medicine as a sudorific for chronic rheumatism, atonic dyspepsia, and a diuretic in dropsies. Formerly the best market samples came from the Continent, but now much smaller English roots realise high prices, so that the culture of Horse-radish is well worth the serious attention of our growers. To produce saleable roots quickly a deep, light and rich soil is necessary, and the herb delights in blazing sunshine, though it is often put away in some odd corner of the garden and in semi-shade, under which conditions it refuses to be dominated by even the coarsest weed.

Saving the French Fruit Trees.—The French authorities are making great endeavours to minimise the destruction which the retreating Germans wrought in their orchards. As is well known, the fruit trees in the gardens and orchards were hacked, chopped and felled in a shocking manner, hoping to destroy their value; but latterly, either because the orchard trees in the last territory regained by our Allies were too large for easy felling or, more probably, because the retreat was too precipitate, the German hordes contented themselves with removing rings of bark from the trunks, no doubt feeling confident that by so doing the trees were doomed. Many of the orchards were composed of half a century old Apples, Pears and Peaches. After prompt consultation with their pomological experts, the French authorities decided that it was well worth while to make an effort to save these trees, so without loss of time doctors and men of the Red Cross set to work bandaging the wounded trees. The exposed wood was first coated with grafting-wax and then bound up with Army bandages, but the supplies soon ran short, and clay for the dressing and a local Moss for the bandages were found eminently suitable substitutes. Besides this tree surgery, many of the trees which were felled had their jagged stumps cut clean last spring and were grafted, sometimes with shoots from their own tops which were lying by, and at others with grafts of selected varieties from other places.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

EARTHING UP POTATOES.

I HAVE read with pleasure and interest Mr. L. M. Marshall's contribution on "Hoeing Potatoes and Earthing Them Up" in THE GARDEN of June 23, pages 236–7. I think there is one point in the latter part of the article which is open to criticism. Mr. Marshall there says: "There seems to be no reason for supposing that a pointed ridge is superior to a flat one in keeping disease spores from the tubers. At present no proof to this effect has been discovered, and the soil is not the main source of infection." I quite agree that the soil is not the main source of infection; that is almost invariably to be found in the foliage. The spores of the disease are, however, very mobile and readily fall to the ground, and if a channel instead of a sharp point terminates the finished drill, many of the spores will lodge in the channel and will, partly by infecting the stem at the surface and partly by being washed down by the rains, accelerate and increase the damage to the tubers.—CALEDONIA.

THE CABBAGE-ROOT MAGGOT.

IN your reply to "Amateur" in "Answers to Correspondents" on page 241 of THE GARDEN, June 23, *re* the above maggot, I notice you do not refer to using a decoction of Hellebore as a cure. This Hellebore is a very certain material to kill the maggots. It is best applied as follows: Put 2oz. of Hellebore powder (which, by the way, is poisonous and apt to irritate the nose and throat) into a small quantity of hot water. Stir, and after a short time dilute to one gallon. This is applied in the evenings, the soil is scraped slightly away from the roots, and the plants given a good soaking of the liquid at the roots.—E. T. E.

ARTIFICIAL MANURE FOR GARDEN USE.

ALTHOUGH patent manures for the garden receive scant courtesy at the hands of those who understand fertilisers, it must not be supposed that some form of artificial compound is to be decried. They are useful enough if only for the reason that animal manure is not easily procurable, or for the fact that one knows how much and what kind of plant food is being supplied. By this means growth can be regulated and stimulated as desired in a more certain manner than with animal manure, and certain ingredients can be omitted or accentuated if desired, according as leaf, flower, seed or roots are aimed at. Experiments with Oats clearly went to show that the different ingredients in a mixed manure were taken up in very different quantities according to the stage of the plant's growth, and that these differed in the various parts of the plant. It is somewhat the same with all plants; and in general, if a manure of this kind is used, what is called a "complete" one is best. The three essential plant foods are represented, together with lime in some form, and such a mixture has at least the advantage of balance, though for special features a more one-sided manure—containing mainly nitrogen for leaf stimulation or much potash for certain fruits and vegetables—may be preferred. Such a standard mixture can easily be made at home, and if kept dry will keep almost indefinitely, which is far from being the case when some other forms of these ingredients are brought together, although all right to keep when not mixed. It will be little the worse, too, for keeping, though rather more effective when fresh. Take one part of sulphate of ammonia, six of superphosphate (26 per cent. brand), one and a half each of finely ground bone-meal and sulphate of potash, and mix very thoroughly, breaking up the lumps. It is sound, and at normal prices very cheap compared to proprietary articles, and, moreover, it is fairly safe if it should be imprudently used. It can easily be made more one-sided if desired.—G. T.

WELL-RIPENED WOOD.

MR. C. BLAIR'S article on the above-named subject in THE GARDEN of June 23, page 233, opens up a very interesting question, and one that occurred to me previous to the appearance of Mr. Blair's article. My experience this season here in Midlothian, in the vicinity of Edinburgh, exactly coincides with that of Mr. Blair in West Lothian, and as far as I can gather it is a common experience throughout the United Kingdom. I refer to the fact that notwithstanding the cold, sunless nature of 1916 (inimical to the thorough ripening of the wood), nearly all sorts of trees and shrubs have this year flowered most profusely, the Elms and Lilacs especially having

ROSE SOUVENIR DE LA MALMAISON.

excelled themselves in this respect. Another record in floriferousness here this season has been made by a specimen plant of Cotoneaster microphylla on a west wall, which as I write on June 25 is actually smothered with bloom. Here, as at Preston House, Rhododendrons are an exception to the general rule. R. ponticum has flowered well almost without exception; but in the case of the finer hybrids, while about 50 per cent. have flowered freely, the remainder have hardly produced a truss of bloom. Although I cannot give dates, not having made notes on the subject, yet I have a distinct recollection that the present experience is not unique, and that I have previously noticed that a comparatively cold, sunless season has been succeeded by a great show of blossom on tree and shrub the following spring and summer. What have the scientists to say to this?—CALEDONIA.

IS it not possible that Mr. Blair, issue June 23, page 233, has made his deductions on this subject from a wrong basis? He argues that the year 1916 was a sunless one (in Scotland, I suppose), and therefore unfavourable for the ripening of wood, yet "everything is this season practically smothered in bloom." But is not this wonderful show of blossom due to the complete rest which the trees enjoyed owing to the long cold winter? For some years past the winters have been so mild that the flow of sap scarcely ceased. Mr. Blair instances the Chrysanthemum to illustrate his theory, but it is possible to have the wood too hard as it is to have it too soft.—S. E. D. T.

AN OLD BOURBON ROSE.

I ENCLOSE a photograph of some flowers of that grand old favourite Rose Souv. de la Malmaison; they were such good flowers of the variety that I thought, Rose news being scarce this year, they might interest your readers. They were caught "just right" to show what this Rose is in perfection, and were cut on a cool morning after a showery night (June 20). The shape and colour (flesh white and shell pink centre) are remarkably fine. The plant from which they were cut was planted twelve or thirteen years ago by Mr. C. H. Clarke, Leighty Water, Torrington, and now covers two-thirds of the front of his cottage, it having about two hundred beautiful blooms on it when he allowed me to cut these. It was produced in 1843, and has ever been a favourite.—THE AGRICULTURAL LABOURER.

NOTES FROM A COUNTY DOWN GARDEN.

IN Mrs. Earle's "Flower Garden Notes" I see she refers to Clianthus puniceus, which is grown in this neighbourhood with great effect out of doors. I have seen it upwards of 15 feet in height, covered with its bright scarlet flowers, not unlike the claw of a lobster, after which it is locally called. There is another plant which is equally striking, although its flowers are of a yellow shade. I refer to the Bladder Senna, Colutea arborescens; it also makes a good climber if neatly pruned and tied into a fence. The Lemon Verbena (Aloysia) is also almost hardy here against a south wall; in fact, I saw a fine bush against the front wall of Lord Londonderry's residence at Mount Stewart, near Newtownards, County Down, which has evidently been flourishing there for years. Of flowering shrubs, some of the most beautiful are the Hypericums and the Potentillas, many of which are never seen in private gardens, but when once possessed are "joys for ever." We have here in this village many beautiful coloured Thorns—dark red and pink—all of which at this season are brilliant settings to the greenery of the other trees.—WALTER SMYTH, *Holywood, County Down.*

AUTUMN-SOWN BRUSSELS SPROUTS.

IN reply to Mr. G. Garner's enquiry in the issue of THE GARDEN of June 23, page 233, I may say that I have grown autumn-sown plants with success for several years. My experience is this: Select a plot of ground free from weeds, and do not dig it. About the middle of September scatter the seeds broadcast, and if sown thinly the plants stand the winter better and prove hardier than when sown in drills. They grow very rapidly during the summer, therefore give them plenty of room to develop their leaf-stalks. They should be planted in their permanent quarters as early in the new year as possible, which gives one an opportunity to drop a few Broad Beans in between the plants. I have at this date—June 26—200 strong-growing, healthy plants which have stood the severe winter without any protection whatever, while I had the whole of my other green crops ruined by the frost. The advantage of autumn-sown plants is that they are furnished with good solid sprouts from the bottom to the top. The variety I grow is Aigburth.—WILLIAM ROBERTS, *Danesford, Bridgnorth, Salop.*

POTATO DISEASE:

LATE PLANTING AND SEED TUBERS.

HAS it ever been satisfactorily decided by scientists whether the fungus of the common Potato disease (Phytophthora infestans) has a limited or fairly well defined season of activity—beginning and ending—during which it plays such havoc with the crop; or whether it is in the nature of an ever-present evil only awaiting the climatic conditions to bring it to earth, where, finding a lodgment on its particular prey, its countless spores are ripe for immediate action? The question is asked advisedly for more than one reason. Spraying in a general way is taken in hand in July, the more advanced farmers in the South of England, those growing second-early sorts more particularly, being early at the work, hardly waiting till July is in, and these, while anticipating the coming of the disease, also believe that "prevention is better than cure." The "cure" in the case, however, is somewhat of a misnomer and rarely effected, since the spread of the disease is so rapid that there appears no means of overtaking it once it has set in. From this general spraying custom—the time for starting which also receives the support of the Board of Agriculture and Fisheries—it may be inferred that the starting period at least—the infectious stage of the disease—is known, and, the natural conditions for its vegetating—soft foliage and heat and moisture—being present, the work of destruction is rapid. At the other end of the chain the continuance of the disease may be limited or cease, having come to the end of its "season." I put it this way in order, first, to provoke discussion, and, secondly, to state that of a considerable planting of Potatoes made late in June last year no disease of the haulm worth noting was remarked. The produce, lifted at much the usual time, kept well and was quite free from disease. So far it is only the experience of a single season, and further experiments are necessary. The point I desire to bring out, however, is this: That if immunity or comparative immunity from disease in the Potato is possible of attainment by late or deferred planting, there is here an opportunity of adding enormously to the stocks of seed tubers, which this season have given so much cause for anxiety.—E. H. JENKINS.

[We fear the Phytophthora must be regarded in this and other temperate climates as an ever-present menace to the Potato. In hot climates it cannot survive long, but our summers are not hot enough to kill it. In the opinion of Mr. F. J. Chittenden of the Royal Horticultural Society's Gardens, Wisley, and of other authorities, the disease probably comes from diseased tubers (planted or left over from another crop) in the first instance, and merely awaits the advent of 'muggy' weather to spread, for moist, warm conditions are necessary for the germination of the spores. No doubt it frequently develops unnoticed on the lower leaves of the plants, and may never spread further unless the weather conditions are favourable. The favourable conditions for its spread usually occur about the first week in July, the period often of rapid growth of the Potato haulm; but it may be earlier (the disease has already appeared in the Isle of Wight, and a year or two ago it occurred and did serious damage in Jersey in April) or it may be later. We have no evidence to bring in support of the suggestion that late planting, *i.e.*, June planting, would reduce the disease, and except for the production of seed tubers it would, of course, seriously reduce the crop. An isolated instance of practical immunity from attack, while suggestive, is not, as Mr. Jenkins points out, in any way conclusive. In the writer's own garden, except in one small area, Phytophthora did no damage whatever last year among Potatoes planted as usual in April, but in gardens in the neighbourhood the havoc wrought was often serious. The Potatoes were not sprayed, and one can only conclude that some condition in that garden was unfavourable to the development of fungus.—ED.]

The Desirability of late Vegetable Crops

EARLIER in the year the desirability of growing as many vegetables as possible was emphasised in these pages, and the continued increase in the price of practically all kinds of food calls for extended action in this sphere of gardening. Owing to the scarcity of labour, a good deal of work in the sowing and planting of vegetables during March and April had to be left in abeyance, with the result that in many places ground is lying idle that ought to be producing its quota of useful and wholesome food. The drought that was experienced from the early part of May and throughout the greater part of June, together with the severe frosts of spring which we can never forget, have also tended to lessen supplies; hence no apology is needed for offering suggestions on the cultivation of vegetables that may be sown or planted during the next few weeks. In most gardens there will be some seed that was not required for sowing earlier in the year, so that there need be very little outlay in that respect. One result of the present war is to bring before us vividly the cropping possibilities of the soil, and many lessons will be learned that will be of considerable benefit to the community in future years. In the notes that follow I do not propose to deal with extraordinary vegetables that need elaborate preparation or apparatus to bring to perfection, nor those kinds which yield comparatively little actual food.

Beans.—Any of the Dwarf French Beans sown now in rows 1 foot apart will yield some useful pods for gathering after those sown earlier are finished. The soil ought to be well dug and manured, and if rubbish such as lawn mowings, leaves and annual weeds that have not yet reached the seeding stage can be worked deeply into the soil they will tend to keep it cool and moist during the hot days of August. It should be remembered that the seeds of all French Beans are perfectly wholesome and palatable, as witness the Haricot Bean; hence any pods on the earlier-sown plants that cannot be profitably gathered green should be allowed to mature.

Beetroot.—Seed of any of the round or Turnip-rooted varieties may be sown during the next two weeks with good prospect of success. Sow in rows 1 foot apart, and before sowing well water the drills. This should be done for all small seeds that are put in at this time.

Borecole or Kale.—Any of the varieties sown at once will be in ample time for good late winter and early spring crops. Sown in rows 1 foot apart the plants will be ready to go where the early Potatoes or Shallots have been lifted or where old Strawberry plants have been uprooted after the fruit is gathered. The same remarks apply to such Broccoli as Snowdrift, May Queen and Purple and White Sprouting.

Cabbages.—The date for sowing spring Cabbage is the last week in July or the first week in August. Sow as advised for Borecole. Savoy Cabbage, sown at once and planted out when ready where early Potatoes or other crops have been cleared, will give some useful if small heads for cutting early in the New Year. Christmas Drumhead Cabbage and Hardy Green Colewort are other types that may with advantage be sown during the next week or two.

Carrot.—The early Stump-rooted or Horn Carrots may be sown thinly in rows 1 foot apart from now until the end of July. The young roots thus obtained will be available for use from the end of September onwards, and will prove a welcome change to the large maincrop varieties.

Kohl Rabi.—The small garden forms of this must not be confused with the coarse roots grown in the fields for cattle. Seed sown in drills 1 foot apart in well-enriched soil, treated as advised for Beans, will give excellent Turnip-like roots for winter use. The seedlings must be thinned early, so that they stand from 6 inches to 9 inches asunder.

Leeks.—Although too late to sow seeds, this is just the season for planting, and doubtless in most districts plants could be obtained from the local nurseryman. They ought to go 9 inches apart in trenches 6 inches deep, these having previously been well manured, much in the same way that Celery trenches are prepared.

FRENCH BEAN EARLIEST OF ALL.

There is still time to sow for a late supply.

Peas.—It is not generally known that Peas may be sown with every prospect of success during June and the early days of July. Late Peas suffer most from attacks of mildew, brought about by the drought of August and early September; hence rather more than ordinary precautions must be taken with these late sowings. A cool, moist root-run is essential, and to secure this it is advisable to dig out a trench 18 inches wide and as much deep, then in the bottom place at least 6 inches of well-decayed manure mixed with lawn clippings, annual weeds, or any other garden refuse that is capable of retaining moisture. Some short, well-rotted manure may also with advantage be mixed with the upper soil that is filled into the trench. For sowing in June, one of the recognised late Peas, such as Gladstone, should be selected, but for July use an early one, such as Little Marvel, The Pilot or Eight Weeks. These are hardier and come into bearing more quickly than the maincrop sorts. When a few inches high, soil should be drawn up to each side of the plants so as to form a small ridge, each side of which should then be mulched with short manure and lawn clippings.

Turnips.—It is a well-recognised rule of gardening that the best Turnips are obtained from sowings made during the latter part of July and the first week in August. Drought is their greatest enemy, and to prevent it as much as possible some precautions are necessary. In addition to working plenty of manure, grass or other garden refuse into the soil, the seed-bed should be covered, after the seed is sown, with clippings from the lawn. This prevents moisture escaping from the soil and has been found to act as a preventive against the ravages of the Turnip fly. This crop must be grown quickly, otherwise the roots are hard and useless.

W. H.

THE CULTIVATION OF CABBAGES

THE time is fast approaching when it will be necessary to sow seeds for the production of plants to be set out later on in order that we may at least prepare for crops of spring Cabbage next year. Cabbages were a very poor show last spring owing to the damage that was sustained

THE HARDY GREEN COLEWORT.
Seed should be sown now for use next winter.

as a result of the hard weather during winter. Those coming in now have better hearts. Hitherto they have been very spindly and leafy. But this must be no deterrence to our preparing for possibilities next year. We are always compelled to take risks with outdoor crops. The old adage, "nothing risk'd, nothing won," is most applicable to the work of growing vegetables outdoors. As a matter of fact, unless gardeners were ready to shoulder this risk we should find ourselves very short of any kind of vegetable except that grown in hothouse and what can be stored—from November to midsummer. And this brings me to a discussion of the particular risks involved in raising early Cabbages in spring. Coleworts are sown at midsummer, and they give a good yield during early winter. They are rather small, and when planted out should be placed rather closely together. Apart from this, there is the possibility of having small hearts of spring Cabbages ready to cut by the end of March, or even earlier, in a favourable season and a suitable locality. This, however, requires that the seed should be sown before the accustomed time at the end of July or beginning of August. A first sowing must be made at latest by the end of the first week in July, and it is often a good plan to make a sowing at the end of June. The writer has personally found the practice of early sowing very successful, and the risk of an early crop of Cabbages in spring worth taking. The objection met with is that if sown too early, *i.e.*, before the end of July, the plants are almost certain to "bolt," or, in other words, to run to seed. This objection is true of certain kinds, and there are some that will "bolt" even when sown in August, but it is by no means true of all. It would not be possible to name here varieties that are less liable to "bolting," because they vary with the locality and are generally known to gardeners. A good plan is to avoid all sorts that have the reputation for running to seed. There are also other means of overcoming the difficulty. One is that the seed should be sown in a moist bed, or that the bed be watered after sowing. Then again, watering of the plants in the seed-bed, on the nursery bed and in the permanent bed is a great help, because it is hot, dry weather that causes "bolting." Again, if the seed is sown in drills and not broadcasted, hoeing can take place between the rows of seedlings. When planted out the hoe should be kept going continuously, as by this means the soil is kept in a more moist and cool condition.

In any case and at whatever time it is proposed to sow seed, care and energy must be put into the work if success is to be achieved. The seed-bed must be fine, well prepared, rich, but compact. Seed of a good strain should be selected and the seeds sown *very thinly*. The seedlings must not be allowed to suffer from lack of moisture or from the effects of being allowed to grow thickly together. Those plants thinned out may be set in a nursery bed, and the whole of the plants removed in the same way when large enough. Successional sowings must be made. It would be quite a mistake to make one large sowing or to sow only one variety. Planting out takes place from early September onwards, and care must be taken to keep the soil well hoed to admit sunlight and air, and to keep the plants free from weeds. It is well to remember that the Cabbage is a rank feeder, and the land on which it is planted should be heavily dressed with stable manure and be well supplied with soluble artificials in the shape of nitrate of soda, superphosphate and potash. The plant requires any amount of lime. Cabbage is liable to become attacked by disease if the land on which it is planted should lack lime or if it is in a poor and undrained condition; also it is a great mistake to plant Cabbage on the same ground year after year, for the same reason. But more about manuring and planting out later.

L. M. MARSHALL.

LEEKS

THERE is little doubt that the Leek is one of the most wholesome of vegetables, and has long been held in very high esteem by all classes of society. The date of its introduction is uncertain, but we know it was cultivated in Egypt some 1,500 years before Christ. Strange to say, for many years the production of high-class specimens was practically in the hands of Scotch friends and of those in the extreme North of England, and it is only during the past thirty years or so that the Southern growers have found out that it is not merely the climate, as was once supposed, but the proper treatment of the plant, especially in the early stages of its growth, that is so essential. Whether intended for competition or for home consumption, every endeavour should be made to produce these at their best; and one can only appreciate good specimens when comparing them side by side with badly grown produce.

There is considerable diversity of opinion as to what constitutes a good Leek. Some believe a long length of blanched stem is essential, while others are of opinion that thickness and not length is what should be aimed at. But in my opinion an intermediate specimen is to be preferred, consisting of a blanched stem from 12 inches to 15 inches in length with a circumference of about 6 inches, uniform throughout, and no tendency to bulbing. The most important item to observe in Leek culture is that the blanching should begin immediately the plants are put out, as by this means the stems are drawn up to the required height with suitable paper collars, which are easily made, or they can be purchased at a small cost. Far too many people even now are under the impression that the growth should first be made and the blanching done afterwards. This cannot be done, as, after the growth is once set, nothing will induce the plant to run to the length required, the result being a short edible piece generally full of grit, which, of course, is objectionable.

The Leek requires much food and loves moisture, hence the trenches should be well prepared and three parts filled with good manure. Moisture should be given freely in a clean and liquid manure form, and the tops damped over every fine afternoon. Fine soil should be drawn up to the blanched portion as the paper collar is raised higher, and to hold the soil in position boards should be placed upright on either side, leaving a space of about 8 inches between them. This is a method I have adopted for the last few years with the greatest success. By so doing the roots are not buried to any great depth, as is the case when the soil is banked up in the usual way; the plants can be fed and watered much more effectively, and very little bulbing will be found to take place. What first induced me to follow this plan was, when lifting the specimens after being treated in the old-fashioned way, the roots were found largely in the banked-up soil instead of at the bottom where they should be. This often meant that the appearance of the specimen was very much marred. For a continuance of a regular supply through the winter and early spring three sowings and three plantings should always be arranged. The last sowing made at the end of March should be planted on a south border from the middle to the end of June. There is no more delicious vegetable than the Leek when properly cooked, and it is to be hoped such a wholesome addition to the table will become more popular.

E. B.

Spindly Growth of Potatoes

I WAS much interested in Mr. Molyneux's theory that this fault is induced by the low temperature in which the seed had been kept during the winter. I am much of his opinion, although my own experience this year points to some other cause. The seed of Midlothian Early and Arran Chief was kept in boxes in a spare room in the house, and though I believe frost was excluded, the temperature at times must have been very low. Yet the early varieties are a capital crop, whereas I have had to replant the late ones. Perhaps some varieties are more susceptible to cold than others. Another theory is that the tubers experienced a check during growth, which hardened the tissues and interfered with their growing powers.

Bridgnorth. S. E. D. TURNER.

CABBAGE DWARF GREEN CURLED.
Sown before the end of July, the plants will "bolt" in spring.

THE LAYERING AND PLANTING OF STRAWBERRIES

THE cultivator of the Strawberry reaps a quick return for his labour. Few kinds of fruit entail less labour than does the Strawberry, but good work must be done at planting-time and strong plants put in if the best crops of fruit are to be realised.

Layering.—Although a strong plant yields many runners suitable for layering, it is not advisable to layer more than one on each runner, and that should be the one nearest the parent plant, all others being discarded. From three to six plants may be raised from each parent plant. The necessary runners must be layered as early as possible, so that the young plants can be put out in their permanent quarters and get well established before the winter months come. Plants so treated will bear a good crop of fruit the following year, and much earlier than those planted late in the season. The runners may be layered in small pots or in squares of turves. Fig. 1 shows an old plant in a pot which has produced two runners, one of which is shown layered in a small pot. Old plants in beds produce layers in this way. The compost must be good. Fibrous loam, two parts; leaf-soil, one part; rotted manure, passed through a 1-inch-meshed sieve, one part; with a small quantity of sand added, will form a suitable compost. Peg down or place a stone on each runner in the pots. The runners on border plants must be layered in a similar way. Fig. 2 shows a strong-rooted layer ready for planting.

The Position for the New Bed.—This must be an open one for the main crop, away from tall trees or buildings. For very early cropping a few rows of plants may be put out on a sheltered border facing the south.

Preparing the Ground.—In every instance where young plants are to be put out it is essential for them to be planted in deeply dug ground. At this season the soil may be deeply trenched, and made moderately firm again by treading in the short space of two days, because the soil is not too moist. A naturally poor soil must be enriched by the addition of some well-rotted manure, and this should be supplemented by top-dressings of manure after the planting is done. Trench the soil two spits deep—twice the depth of the spade—and, in addition, fork up the subsoil, but leave it below. All fairly large lumps of soil must be broken up, and for this purpose a garden fork will be found very useful. A rich soil need not be manured when dug; the top-dressings will be sufficient.

Planting.—Early planting is advisable, so no time should be lost in getting the rooted layers put out in their fruiting quarters; but it is a good plan to first place the young plants in the pots on the north side of a wall or fence for three days when severed from the parent plants. If given such shelter and syringed twice daily they will receive no check to growth. A Strawberry plant is at its best the second year after planting. Renewal is generally advisable at the end of three years. In many cases valuable space is wasted owing to the young plants being put out too far apart. The strong-growing varieties should be planted 2 feet apart each way; the varieties with smaller leaves and a less robust habit will do well at a distance of 20 inches each way. One hour prior to planting thoroughly water the young plants in the pots. In planting, a hand-trowel should be used. The hole must be made large enough to contain the roots without cramping; the crown of the plant must be above the soil-level, and the soil should be firmly pressed round the roots with the hands. The greatest care should be taken to prevent soil getting into the hearts of the young plants; if it does, growth is severely checked and the plant may be killed outright. Give water and mulch the surface with very short, well-decayed manure, if obtainable.

G. G.

1.—PARENT PLANT AND RUNNERS.

HOW TO PROLONG THE STRAWBERRY SEASON

FROM the end of this month onwards is a good time of the year for making new beds of this useful fruit. Strong runners planted then become well established before the winter and will, if the elements prove normal, give a good crop of berries during June and July of next year. This, really, is the great advantage of early autumn planting. If the work is deferred until the spring, very little fruit will be available next year, and a loss of practically twelve months will result. Any reasonably good soil will grow

2.—LAYER ROOTED AND READY FOR PLANTING.

excellent Strawberries, but it must be deeply dug and well manured, especially if the plants are to remain for two or three years. Treading afterwards to consolidate the surface before planting also is essential, as the plants appreciate a firm rooting medium. On no account should the roots be cramped together at the time of planting, but they should be spread out evenly and planted with care. The distance apart to set them will depend upon the time they are to remain.

If the one year system is adopted, *i.e.*, a new bed is made every August and destroyed the following year after the fruit has been gathered, 2 feet between the rows and 15 inches between the plants will suffice; but for more permanent beds 2 feet 6 inches and 18 inches respectively must be allowed.

Of varieties there are now a large number, yet for nearly all purposes four, or at the most five, will suffice. For a good all-round and early Strawberry Royal Sovereign has not yet been surpassed. It thrives nearly anywhere, always crops well and, as the fruit is firm, it is excellent for market. Its rather acid flavour is a point against it, though many prefer this to the sweeter varieties. Vicomtesse Héricart de Thury is a good early Strawberry. It is rather small, but a heavy cropper, and the fruit is sweet and of excellent flavour. To follow this and Royal Sovereign, either The Bedford or Bedford Champion should be selected. My experience of the former is that it does well the first year, but cannot be relied upon after that. Hence to get it good a new bed should be made each year. Bedford Champion is slightly earlier, a heavy cropper, and does well during the first, second and third years. The quality of both leaves nothing to be desired.

For a late variety choose Laxton's Latest or Givon's Late Prolific. Both are excellent in every way. With the varieties named it is easily possible to have good Strawberries for at least two months, instead of only a fortnight or three weeks where only one variety is grown. One would think that market growers would find it to pay them well to grow the late varieties named, as prices, when the fruits were ready, would be much higher than at the height of the season.

W. F.

KITCHEN GARDEN NOTES

By GERTRUDE JEKYLL.

Potatoes in the Big Flower Border.—The main flower border that has been given to Potatoes appears to be suiting them well, for the haulm is strong and healthy, and now, in the last week of June, we are about to lift some of the earliest. The border faces south a little east, and slopes a little down to the path. There are Tomatoes in any suitable places at the back, trained to single stems, now a third of the way up their stakes and in flower. A narrow alley 3 feet from the high wall that backs the border gives convenient access for training and watering.

EARTHING UP POTATOES IN THE BIG SOUTH FLOWER BORDER.

A Small Seed-Bed.—A Continental method of sowing a small seed-bed is worth noting. Instead of our rough-and-ready way of raking the ground, scattering the seed and raking again, the bed is first finely raked, the seed sown broadcast, and then got in in a special way. The rake is held firmly in both hands and worked from the side of the bed next to the operator in very gentle successional grabs in a forward direction, taking less than an inch at a time, with the teeth of the rake, which is the better for being half worn, going into the ground barely an inch. At every stroke the seed, with the top soil, falls in by the head of the rake. The result is that all the seed goes underground and lies at an even depth. The sowing, as shown in the illustration, is of Golden Purslane, a quick-growing crop. The whole size of the bed is about 4 square yards, 1 square yard being taken in fortnightly succession and the first sowing made near the middle of June. The same method is suitable for any sowings of small spaces, as for Radishes, Corn Salad, Parsley, Chervil and other sweet herbs.

A CONTINENTAL METHOD OF SOWING A SMALL SEED BED.

Vegetable Marrows.—We have recently been advised to grow Vegetable Marrows on the level ground rather than on raised beds, and one can easily understand that in the case of such a plant—a gross feeder and liking plenty of water—it would be glad of the cooler and less drying positions. Still, as we get a quantity of good produce from our raised bed, it may be worth describing. A foundation is built of any long stumps of the Cabbage kind—Brussels Sprouts, Cottagers' Kale, Marrow Kale and the like—placing the stumps roots outwards in the lowest course, with other courses laid across and across, according to the size of the bed and the supply of material. On this there is 7 inches or 8 inches of strawy stable litter and then 4 inches of soil. We use the Marrows quite small (when not more than 4 inches long), and a large quantity is produced.

AN EASY WAY TO BOTTLE FRUIT

THERE is much talk about bottling fruit going on. I have found the plan recommended by "Anne Amateur," and reproduced in THE GARDEN last year, so excellent that it seems to me a pity it should not be more widely known. The use of ordinary jam jars brings the process within the reach of the simplest household. The fruit bottled by this process keeps for nearly a year, as I have just proved when using last week Red Currants bottled last year.

(Mrs.) H. DROOP.

Misbrooks, Capel, Surrey.

For the benefit of new readers we have pleasure in reprinting the very helpful directions referred to:

Materials Needed in Readiness.—Boiling water sufficient to fill the fruit bottles. Clarified mutton fat, melted and ready to use. (Put this in a jar, into the oven, while the fruit is cooking.) Vegetable parchment covers to fit over all the bottles, and fine, strong twine cut into lengths to tie down each jar quickly.

Method.—Gather the fruit on a dry day, and, having provided clean tea-cloths, very carefully wipe the fruit, laying aside any that are over-ripe, split or in any way imperfect. Place the clean, dry fruit gently in perfectly clean, dry, wide-mouthed bottles or jars, such as old French Plum bottles, good sound glass jam jars, &c. (but do *not* use any that have contained pickles or vinegar). After filling the bottles with the fruit, gently turn and keep patting the bottles. In this way the fruit settles down, so that you will find you can add some more fruit to each jar after it is apparently quite full. Next stand the bottles in an open vessel, such as a large fish-kettle or any large saucepan, &c., and put clean straw, hay or rags between the bottles to prevent them from shifting while cooking. Fill the large vessel with cold water till it reaches to about 2 inches or 3 inches below the tops of the jars. Let it gradually boil up, and keep it boiling till the fruit at the bottom of the jars just begins to show signs of cracking. Then ("I can't be interrupted to speak to anyone, not even the Queen if she should chance to call") fill the bottles with boiling water from the kettle, thoroughly covering the fruit (as it often soaks up a little of the water), and carefully and quickly add just enough of the melted fat to entirely cover the surface of the water. Tie the vegetable parchment covers over the jars instantly. Set the jars to cool, and wipe every one before storing, in case any of the fat should be on the outside. Store on cool, airy shelves. Fruit preserved thus will keep good for twelve months.—ANNE AMATEUR.

Invading Earwigs

FEW insects are better known or less liable to be mistaken for another insect than earwigs; they are common everywhere, and are very troublesome and annoying in gardens, sometimes in dwelling-houses. That earwigs are not favourite insects there can be no doubt; but like many other creatures and things, they are not so black as they are painted, and in spite of the story that is so often repeated about their getting into persons' ears and brains which cause madness and death, they never do so.

As a matter of fact they could not enter the brain, as the passage is blocked by the drum of the ear. It is curious, however, how universal this idea is, for in many European countries they are known by names which allude to this superstition. For instance, in France they are known by the name of *perce oreille* or ear piercer, in Germany as *ohrwurm* or earworm. Another superstition is that they do not fly. It is true that they are seldom indeed seen on the wing; but as they usually hide themselves during the day, only feeding and moving about at night, it is not to be wondered at that they are not seen in the act of flying. That they do fly is a well-proved fact, and their wings are such complex and wonderful pieces of mechanism that it is most unlikely that they would be provided with them if they were of no use.

Earwigs are a certain benefit, as they kill thrips and aphides. They are very cleanly insects in themselves, and always look bright. They have, moreover, a strong maternal instinct, which is not the case with most insects, which, having laid their eggs after the manner of their kind, appear to take no more thought about them, and leave them to take their chance in this inhospitable world. Not so with the earwig, which, after depositing its eggs in a suitable place, sits on them as a bird would, and even broods over the young ones. Earwigs are very voracious, and chiefly feed on the flowers and leaves of various plants, the petals of Dahlias, Chrysanthemums and Carnations being their special favourites. They often attack fruit, especially Apricots, Peaches, Nectarines, Apples and Pears, and spoil Cauliflowers by creeping into them and rendering them dirty and unfit for use. They seem to have no objection to animal food, and, as already mentioned, sometimes feed on smaller insects. They have been known, when other sustenance fails, to feed on one another.

These insects hide during the day in all manner of different places; in fact, wherever there is a crack or crevice into which they can creep. They often hide in or among the petals of flowers, and have many natural enemies. Various birds, toads and some of the larger predaceous beetles are very fond of them, and many fall a prey to parasites. In the open air I cannot recommend any better method of destroying them than the old-fashioned one of trapping them, which may be done in various ways. Small garden pots filled with dry moss or crumpled paper, placed inverted on the top of the stake or stick by which the plant is supported; pieces of Reed, Bamboos, the hollow stems of Sunflowers or Broad Beans, or, indeed, the stems of any plants which are hollow, cut into lengths of about 9 inches and placed among the stems or branches of the plants, are very useful traps.

Pieces of crumpled-up paper or canvas laid among the shoots are also useful, and lengths of canvas or sacking folded loosely several times and laid on the ground near plants which are attacked by these insects may be used for the same purpose. Smearing the inside of any of these traps with a mixture of beer and treacle will render them more attractive. They should be examined every morning and the insects that they contain be blown or shaken into a vessel of water into which sufficient paraffin has been poured to form a thickish film on the surface. This will soon kill them. Earwigs are able to move so rapidly that it is useless to try to spray them with any insecticide. Of course, by this means their food may be poisoned; but flowers and fruit cannot be treated in this manner.

Though they often infest dwelling-houses, they do no harm as a rule, but they have been known to destroy insects which entomologists have inadvertently left within their reach on setting-boards; and a correspondent wrote recently saying that "they have invaded a country house to the destruction of all things therein." One can only imagine that this statement was intended to be taken with the proverbial "grain of salt," and that there were certain exceptions; but what articles were really destroyed, unfortunately the "deponent sayeth not." It is difficult to suggest any method for destroying this insect in rooms, except by fumigation with hydrocyanic gas, which would be a very dangerous operation, as it would be so difficult in most rooms to open the windows from outside without inhaling some of the gas.

Earwigs are so well known that it is needless to give any description of them; but I may point out that the males may be known from the females by the shape of their pincers. Those of the male are curved, meeting only at the tips, while those of the female are nearly straight, only just the tips being curved. They are made great use of when the insect wishes to fold up its wings, which, as I have before mentioned, are very delicate and complex organs. The front pair are like those of the rove beetles (or Brachelytra), form short wing-cases for the other, which are many times larger, and, in order that they may be protected by these cases, they are folded in the most elaborate manner; they are kept expanded by a series of nervures, which radiate from a point like the framework of a fan. When the wing closes it does so just like a fan; the end half can then be folded back upon the other half, and with another fold, which it is impossible to explain in a few words and without a figure, the entire wing, with the exception of the hardened tip of the now tightly folded organ, is covered by the wing-case. The young earwigs much resemble their parents in form, but they have no wings and are quite white. There are eight different kinds of earwigs native to this country; only two, however, are common. Besides our well-known species (Forficula auricularia) there is a much smaller species (Labia minor), which may often be seen flying about in the evening, but it is not recognised as a pest in any way.

S. S.

The Mountain Juniper

THIS pretty little native shrub, sometimes distinguished under the specific title of Juniperus nana from the taller and more upright J. communis, is a useful subject in many gardens. It will succeed in the windiest situations, and although it adapts itself to such conditions by assuming a bushy or even trailing habit, it is, nevertheless, a useful buffer in protecting more tender things. It is equally indifferent to drought. Indeed, it revels in the hottest sun, and no matter how sharp the drainage may be, it will come through the most trying summer unscathed. It likes some lime, but this is not essential. Indeed, all it asks for is a light, free soil—rocky for choice—and all the air and sunshine it can get. It will thrive on the sea-coast as well as inland.

The difference between this dwarf Juniper and the taller one appears to be one that is the result of habitat or conditions. Thus it may be said to bear the same relationship to J. communis as Ulex nanus bears towards U. europæus. But whether J. nanus is merely a variety of its "big brother," but altered in form by the effect of environment, may be left to the botanists to decide. The question, though interesting, does not affect the fact that the dwarf Juniper, with its finely cut, evergreen foliage, daintily set off with the bright glaucous under colour of the leaves and globular berries of bluish purple, is a shrub well worth the attention of all who have the trials of a sun-beaten and windy garden to face. It may be added also that, although the spreading habit is such a marked feature of J. nanus, plants taken young and put in the garden where conditions are normal will assume the pyramidal shape of the Irish or other Junipers without the aid of the shears. Grown thus it makes a very desirable little specimen shrub of some 3 feet or 4 feet in height, but it is well to bear in mind that full exposure to sun and air is essential to the production of a really good blue tint in the foliage and fruit.

A. T. JOHNSON.

WATERING VEGETABLE MARROWS.

HERBACEOUS PLANTS IN TURF

A CHARMING branch of gardening which has been developed more and more during recent years is that of naturalising Daffodils and other bulbs in grass. But very few gardeners seem to have realised the possibilitiesof naturalising herbaceous plants in the grass; yet all sorts of delightful possibilities exist. I grow several clumps of common old sorts of Michaelmas Daisy in the rough turf of the wilder parts of my rather wild garden, and they hold their own against coarse grass and weeds from year to year, and always give me far more pleasure than the finest Michaelmas Daisies in the borders. The tall Moon Daisy (Chrysanthemum Leucanthemum) is also well established near by, and looks very fine in late summer. Anemone Pulsatilla is also flourishing in rough grass, and seems thoroughly established. I shall try Anemone alpina and A. japonica in the same way. I have heard of A. alpina as a grass plant in an English garden, and have seen it by the acre in alpine meadows, so have little fear of managing it. Pæonies are excellent in grass, both the Chinese herbaceous varieties and the European sorts. Other plants that are flourishing in my rough grass are Viola cornuta (hayfields in the Pyrenees are blue with this), Lychnis Flos-Jovis, Oriental Poppies, Veronica Spicata, Doronicums, Sweet Williams, Forget-me-nots, Campanula persicifolia, St. Brigid Anemones and Gladiolus byzantinus. But I intend to try a great many more things. I think the great secret of success in establishing herbaceous plants in turf is to give them a really good start. Dig the soil deeply and well, forming a bed rather larger than the groups you wish to form; manure the soil well, and then put in your herbaceous plants. They should then be left well alone, and the surrounding turf may be allowed to make its own way back among the plants, which it will do in a year or so.

The groups should be irregular and not too dense, and bulbs may be grown in conjunction with the herbaceous plants. To anyone who has a piece of rough grassland which is not overrun by horses or cattle, or a piece of lawn that can be spared to run wild and rough, I strongly recommend this form of half wild gardening.

Certain folk will say, "But the plants won't do half as well in turf as they would in the border." To those who judge flowers by their bigness and fatness, and to whom obesity is its own reward, I do not recommend growing herbaceous plants in turf. But there are many who will find rough wild turf a very attractive setting for certain flowers, and who will derive much pleasure from experimenting with this form of gardening.

The Chinese herbaceous Pæony in the accompanying illustration would, I think, look better if the turf had been allowed to grow up and into it, if the grass were rather longer and rougher, and if the plant had been allowed to fling itself about with a little more freedom. I will mention a few other plants which might be tried in grass: Anthericums, Aquilegias, Aster alpinus, A. subcæruleus, any of the big Campanulas, Gentiana lutea, Rudbeckias, Scabiosa caucasica, Spiræas, Thalictrums, Hemerocallis, Irises, Chrysanthemum maximum and Golden Rod. But there are hundreds more with which to experiment.

Stevenage. CLARENCE ELLIOTT.

HERBACEOUS PÆONIES IN GRASS.

Two Good Vegetarian Dishes

IN a cold frame, early in February we made up a bed of old manure and leaves under 2 inches or 3 inches of soil. On the 24th, Cabbages Sutton's Earliest were pricked out in rows, and Early Horn Carrots sown between the rows. On May 1 the Cabbages were planted out in the open, on ground well dressed with guano, and some of them have now good hearts and are almost ready to use. The Carrots were thinned as required, and on June 21 we enjoyed a delicious dish of them for lunch, for which I send the recipe. Peas Little Marvel are also now available, so I am adding a recipe for cooking them which may be new to some readers of THE GARDEN, and is always popular here. I do not consider the small amount of cream used an extravagance, as, if no meat is eaten, one requires a certain amount of fat of some kind.

Carrots.—Blanch 1½lb. of young Carrots—that is, cover the Carrots with boiling water and boil for five minutes—then rub them with a coarse towel until the skin is removed. (If large Carrots are used, cut in slices about an inch thick.) Put the Carrots in a saucepan with a quarter of a cupful of boiling water and a large tablespoonful of butter or margarine, a pinch of salt and a small pinch of sugar. Cover the saucepan and allow the contents to simmer gently for twenty minutes. Examine, and if the Carrots are tender and the water entirely absorbed, mix in half a cupful of cream and the yolk of an egg (previously stirred together), add a teaspoonful of chopped Parsley, and serve at once.

Peas au Gras.—Take a quart of freshly shelled Peas; rinse and stew their shells in a quart of water with a few Lettuce leaves, cooking them for half an hour; then strain the liquid into a stewpan on to the shelled Peas, adding a quarter of a pound of minced bacon or ham. Boil for half an hour, or until tender; then mix in an ounce of butter or margarine, a sprig of Mint, finely chopped, and a finely minced Onion. Mix well, then add half a gill of cream or thin white sauce, a dust of coralline pepper and a pinch of castor sugar. Turn out on to a hot dish, and garnish with fried Potato straws that are perfectly crisp. N.B.—If too much liquid is left in the pan after the Peas are cooked, strain it off (for soup) before adding the cream, &c., or the mixture will be too thin.

Altrincham. W. D.

BOOKS

The Beginner's Allotment.*—An excellent little book for the gardener and allotment holder is the addition of No. 11 to the volumes contained in the Smallholder Library. The book will be found particularly useful to the beginner, and valuable to him who studies it thoroughly. It contains sound, practical advice for the old hand, and interesting information for the professional. The matter is well chosen and the subject dealt with by a writer of understanding. As to style, this is good, being clear, concise and to the point, thus showing what can be done in a book of small compass. "Taking a New Allotment" is the title of the introductory chapter. It is a gem in practical instruction; and so is the second on "How to Handle an Old Plot." Mr. Brett commences by pointing out how absurd it is to imagine, as so many excellent people do, that the management of an allotment is a simple business which any tyro can learn in five minutes. The present writer was reminded, when in Birmingham a week ago, of the amazing ignorance prevailing among many of those good people suffering from the allotments craze for the first time. In one instance a business man persisted in talking about his wonderful feats on a newly acquired allotment. To tell all the ridiculous stories forced on my ears would take up space to the extent of five columns. But here is one of them, told quite innocently and quite seriously: "I've been planting Beans to-day. Well, Beans—I suppose you would call them Beans; it said Marrowfats, Scarlet Runners, Green Windsor on the packets, and some of them were round, some long, while others were white and all colours. I suppose there is

* "The Allotment Book," by Walter Brett. Published by C. Arthur Pearson, Limited; price 1s. net.

not a great deal of difference in them when growing. They are all Beans. *I mixed them together*, and am thankful they are sown. If this weather lasts I ought to have a splendid lot of Beans!" It is difficult to say whether Mr. Brett's book would be of service in such a case, but each chapter is delightfully fresh, and plots of different sizes—10 perch, 20 perch, 30 perch up to the 120 perch plot—are treated separately. "The Year's Work at a Glance," which is more than an ordinary calendar of operations, though accurate in the main and reliable, is not perhaps the best part of the book.—L. M. MARSHALL.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Hoeing and Mulching should be strictly attended to for the benefit of all growing crops likely to suffer from drought, such as Peas, Runner Beans and Cauliflowers. Frequent stirring of the surface soil among such crops as Lettuce, Turnips, Brassicas and Onions does much more to accelerate growth than the mere observer realises. Even if there are no weeds, it is time well spent, admitting air to the roots of growing subjects.

Onions.—About the middle of the month sow a pinch of The Queen variety, which does not run to seed so quickly by early sowing as do some other sorts. This variety is ready for use in the spring before any other.

Celery.—Continue to put out plants in single, double, or even treble rows for late use. Supply earlier batches freely with water. Syringing the leaves in the evening after a hot day does much to induce a healthy tone to the plants. An occasional sprinkling of soot about the plants will help to ward off fungus attacks later on.

Cauliflowers.—Plantations made now from late sowings will be useful in November, especially if the plants are well supplied with water until firmly established.

Leeks.—Plant a good batch deeply with a dibber on flat ground, simply covering the roots and leaving the holes open to be gradually filled in as the plants grow.

Parsley.—Make a sowing on a warm border for winter use, and thin the seedlings early to encourage sturdy growth.

Endive.—Sow on Celery trenches for lifting in frames. Thin the plants early to allow free development.

Spinach.—Sow seed of Prickly and Round varieties thinly in rows 18 inches apart on ground from which early Potatoes were lifted. Plants from this batch will stand through the winter and give pickings in the autumn.

Savoys put out on ground where early Potatoes grew will give good heads quite early in the autumn.

The Hardy Fruit Garden.

Strawberries.—Fasten layers with a wooden or a wire peg on the top of a 3-inch pot full of rich soil plunged in the ground for a new plantation. The middle of August is a good time to put out such plants on deeply dug, well-manured soil, where early Potatoes were grown, for example. Strawberry plants put out in this manner guarantee fruit the following year, as the plants will be well established by the winter and will have made good crowns with ample leafage.

Summer Pruning is all too often neglected, especially in young trees of Apples, Pears and bush Plums. Not only does the timely removal of surplus shoots aid the swelling of the fruit, but it also assists in laying a foundation for the future crop by maturing the wood of spurs and shoots by exposing those parts to sun, air and wind. In the case of newly planted trees, much may be done in laying the foundation of a shapely tree by the judicious removal of useless shoots. Of all hardy fruit, none benefits more by close summer pruning than the Red Currant. Where the main branches are thinly placed, as they should be, the removal of surplus shoots back to within 2 inches of their base not only aids maturation, but exposes the fruit to the sun, which improves the colour and allows the rain to cleanse the fruit from honeydew, which all too often affects them.

Plants Under Glass.

Chrysanthemums should be finally potted, using a compost of three parts fibrous loam, one part half-decayed cow or horse manure, with a sprinkling of bone-meal or soot. Pot firmly and allow ample space at the top for water or future top-dressings. See that the balls of soil are thoroughly moist before potting. Then allow them to remain two days before again watering.

Tuberous Begonias, both double and single, should be placed in their flowering pots, which need not be large. It is surprising how well they succeed with a limited root run if supplied regularly with water and liquid manure alternately. Shade from bright sunshine, keep the plants near to the glass, and syringe overhead in the evening until the flowers expand. Plants growing in baskets must be regularly supplied with water; if any doubt arises in the mind that one plant has not sufficient, well soak the whole in a tub of water.

Salvia splendens, raised from cuttings in March, should now be planted out in the open to save time in watering.

Crotons in cutting pots should be shifted on as required, giving them a position close to the glass in a high, moist temperature, where they will colour rapidly. Shade is only required for three hours during the hottest part of the day.

E. MOLYNEUX.
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Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Vegetable Food.—It is to be feared that not nearly enough is made of vegetables as a food. They are eaten mostly as an addition to other foods, and could in these circumstances be very well left out of the dietary as not being indispensable. I fare, if not sumptuously, at least very well, on vegetables mainly, and at this season, when these are so abundant in gardens, others who do not esteem them highly as a satisfying dietary might be induced to give them a trial. Broad Beans form an important item, and these in thick soup with Cauliflowers, Carrots, Lettuces or, indeed, anything in season, with herbs to flavour to taste, are very good to eat. As many mature Kidney Beans and Broad Beans as possible should be saved for winter and spring eating. There is no difficulty in drying them, provided they are allowed to get fairly ripened before gathering.

Tomatoes in Pots.—I grow only a few dozen plants in pots—10 inch—finding it more profitable and less laborious to plant them out in borders, no matter how contracted nor how poor the soil. In pots it is specially important to apply surfacings rich in manure, such as half loam and half manure, and, once the roots have ramified the material, to apply more; but there is this caution—that more than is sufficient to keep the plants healthy and the fruit swelling will assuredly result in coarsened fruits. Water at the roots in hot weather may need to be applied twice daily. The fruit should be picked before it is quite ripe, and if to be sent away, before it is wholly coloured. There is some diversity of opinion regarding the practice of lessening the leaf surfaces. My opinion is that it may always be done when the leaves overlap.

Cabbages.—About the 13th of the month is late enough to sow for early localities, while in later ones no time should be lost in sowing. The drills for these should be about 2 inches deep and be broad, and the seeds sprinkled rather thinly so that the seedlings may have room to grow without crowding. Where birds abound, it is essential to protect the seed-bed till the plants are well established.

Cauliflowers.—The last planting may now be made of a quick-hearting variety. By selecting the plants, leaving the small ones to be set out a short time hence, a long supply of delicious heads will be obtained, much, of course, depending on the season. Last year it continued into December, but that was exceptional. Even with the Cauliflower-like Broccolis we have for early winter, a few Cauliflowers are quite acceptable.

Plants Under Glass.

Propagating Malmaison Carnations.—Most growers layer stock for another year as soon as possible after the bloom is over. There is, however, no reason to hurry, as very good material is produced by delaying propagation till a few weeks hence; only it gets the plants out of the way once they have been somewhat hardened after the shading they had to endure some time back. The layers may be rooted in a bed of soil in a frame, or the plants planted in a similar way in a frame and the layers fastened into 3-inch pots filled with light soil, by which means no check happens when the necessary shifting occurs. Those who are inexperienced in propagation will get the best results by preparing the layers previous to planting the old plants, selecting the medium, healthy leaved shoots. If disease has been present, make the layers as short as possible; this will usually result in healthy plants.

Fruit Under Glass.

Muscat Grapes.—In very hot weather a temporary shading will lessen the strain on the foliage, which is more susceptible to intense heat than that of other varieties usually cultivated. The simplest material to use is common whiting dissolved in hot water and applied by means of a syringe. The first shower of rain will remove most of it, but it may be made to endure longer by mixing a small quantity of oil with it. About this time of year, too, scalding of the berries occurs. The shading to some extent minimises that; but to be on the safe side it will be better to leave the ventilators slightly open all night, and during the daytime to air freely. When applying water to the borders, mix superphosphate—an ounce to three gallons—with the water. The borders also might safely be surface-dressed with a quick-acting manure. Even soot is valuable, but does not act so quickly as some other materials.

R. P. BROTHERSTON.
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COLUMNS FOR THE CURIOUS

RHUBARB: PILLS AND TARTS.—Probably the war has knocked all centenaries on the head, otherwise someone would almost certainly have found out the exact date and possibly the very occasion when our great-great-grandfathers and grandmothers first ate the toothsome "sweet" now so well known to us all as "Rhubarb tart," and we would have had—what might we not have had?—a banquet, of course—that goes almost without saying; and how appropriate it would have been if a certain "Birthday" lord with vast experience of culinary matters had been induced to preside; then afterwards a conference to settle such knotty points as which was the popular species or variety in the twenties of last century, when Rhubarb tart eating began in earnest; and which is the best one to grow to-day for a similar purpose. Of course, the officinal plant would not be forgotten—who can ever forget the pleasures and the pains of the good old pill? A paper might have been read by one of our horticultural historians on its introduction as a garden inhabitant in pre-Gerardian days, and references might have been made to the strenuous efforts made by the London Society of Arts in the seventeen-nineties to promote its culture, for gold medals galore were then given to successful propagators, growers and curers of the savoury root! Again, what names would almost assuredly have been mentioned on such an occasion! At one end of the scale of fame would be the great Bacon, who discussed its virtues in his well-known natural history ("Sylva Sylvarum"); and John Evelyn, England's ideal Squire, who thought it worth while to make a note in his famous "Diary" of some he saw in the Physic Garden of Oxford in 1654. Then at the other end there would be the unknown butcher's boy of Maidstone to whom John Bennet the chirurgeon gave a decoction of Rhubarb leaves in ale, with alarming, but in the end most satisfactory, results. This must have been in the last decade of the sixteenth century. In between these extremes there would be Myatt of Deptford, who in 1820 "undertook the utilisation of the

talks as a fruit"; and General Manners of Bloxholm, who brought seeds of Rheum palmatum from Russia about 1777, whose progeny in the garden of one Mr. R. Turner of Grantham must have been among the very first plants to be used for purely culinary purposes (*Gardeners' Magazine*, Vol. III., page 102). One point of practical importance that I have come across in my hunt for Rhubarb facts is the suggestion that the plants should always be grown in partial shade, because it is only in such positions that they will become properly succulent and develop their true luxuriance. It would be of interest to readers and eaters, should these lines be read by any Rhubarb experts, if they would tell us how far this statement holds good for modern garden varieties, or if the benefit of this method of cultivation is confined to Rheum palmatum only.—JOSEPH JACOB.

BROOKLIME.—Some weeks since I had occasion to note the strange transformation effected by the lapse of time on the folk-names of plants, Brooklime being mentioned as an instance. To trace the progress of the transformation in the case of this plant may prove an interesting item for your "Column for the Curious." Though the plant is commonly regarded as merely a pretty weed, it was not always so, and quite recently I heard of it being sold in the open market as a substitute for Watercress, than which it is rather more bitter to the taste, and with which it was wont to be mixed as a salad in bygone times. We read of it being eaten with oil and vinegar, mixed in pottage at Easter; while in the eighteenth century it was an ingredient in a popular tonic known by the name of "spring juices." For a lengthened period it was identified with the "Kepaia" of Dioscorides (Sedum Cepæa), and by the early herbalists was associated with the Pimpernels and Purslanes, Water Purpie, a very old Scots name from the French "Pourpier," still keeping the association green. But our Brooklime is native of the soil, and is first identified as Hleomoc in a tenth century vocabulary. Of this name there exist in later manuscripts various forms—Leomoke, Lemeke &c. Some illiterate scribe in the thirteenth century wrote it Water Lyngke, and it will be seen below that this name still survives. The first form was by and by reduced to Lemke and Lempe; and Dr. W. Turner may be regarded as one of the first to give the present designation in Brooklom as a gloss for Cepæa. Lyte, some thirty years later, has Brookelime. But that the old form was not extinct is proved by its appearing in two rural tracts in 1623, which in one is Brockell Hempe, and in the other Brokelempe. It will be noticed that the "Hempe" in the former would be Brock (Brook) llempe had the words been properly divided. In Scotland, Water Purpie gives place in the west and the northern districts to the, at first sight, ridiculous name of Wall Ink and Well Ink. This, it will be observed, is just a form of Brook-lime, "well" in Scotland indicating a fountain or spring, and by accommodating the letters to the meaning of the designation we have Well-Link, which is similar to an extraordinary degree to the Water Lyngke of the thirteenth century. Very curious have been the attempts to discover how "Lime" came to be associated with this weed, which, as I have tried to show, is really of the simplest nature. "Ink" naturally remains a puzzle unsolved to the majority, but is equally simple of solution. These names are, of course, only a few out of the many by which this plant is known.—R. P. BROTHERSTON.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

Plants on a Small Moraine Garden.—II.

BY T. ASHTON LOFTHOUSE.

Asperula Athoa (suberosa).—There seems to be two forms of this member of the Woodruff family sold under this name—one with green leaves and the other with silvery grey leaves. (Since writing this I have seen the latter at Kew named Asperula arcadiensis, although I have never known it catalogued or described under this name.) Both have similar flowers, but the latter is the most beautiful, although it seems to be more delicate, and without protection in the winter I am afraid it would rot off in this locality, even on the moraine.

[A. nitida (Gussonii).—This does quite well, although there is a tendency to go off through excessive moisture, but it does not seem to be so delicate as the last.]

Aster alpinus.—I have not placed this on the moraine, as it grows very freely in other parts of the garden. It is a species that seems to vary greatly in the quality of its flowers, some of the plants opening out with raggy and incomplete petals. Whether this is due to an indifferent type of plant or to attacks of some sort, such as earwigs, green fly, woodlice, slugs or other vermin, in the bud stage I have not been able to make out. Perhaps some reader could enlighten me on this. The plant is certainly very attractive to the slug family and suffers considerably from their unwelcome attention, especially in the winter season, a time when much more damage is done than is generally realised.

AN ALPINE DAISY: ASTER ALPINUS.

Campanulas.—The representatives of this family are planted on the lower portion of the moraine, which is more or less limy throughout. C. alpestris (Allionii).—This I raised from seed, and it has flowered every season since planted out and is increasing, throwing out runners, the rosettes from which appear some considerable distance away from the parent plant. C. excisa, a quaint-flowering Campanula first obtained by me in 1914, has increased considerably in the limiest portion of the moraine, throwing out runners in every direction; but the great difficulty is to prevent the slugs from eating the foliage as soon as it appears. Even if carefully watched it usually suffers considerably from this pest. A slates across the moraine on either side of the plants to prevent the roots from travelling, and these seem to have answered the purpose satisfactorily; and I have found them useful in confining other species since that were inclined to take up more than their due share of room. C. Raineri is quite a desirable species, with its azure blue, large-flowered bells. The plant is quite dwarf and has flowered freely, the one drawback again being slugs, which seem to concentrate on the flowers, especially as soon as they appear. My form of C. Raineri does not seem to be the true one, but the more beautiful variety mentioned by Mr. Farrer in "My Rock Garden" (page 151). C. Zoysii.—A small plant of this, with its quaint, puckered bells, flowered nicely last summer. It has since died, the roots probably having been frosted while the moraine was uncovered by snow.

[C. Raddeana is quite an interesting species, with purple bells and long, projecting yellow pistils, and seems to be quite easy growing; much too free for a small moraine. C. Waldsteiniana, planted in the recently made peat moraine, threw up some of its pretty star-shaped blue bells in the summer; the plant did not

look very robust, but I am glad to say it has reappeared after an exceptionally trying winter.

Cyananthus lobatus.—A plant of this obtained in the spring of 1915, planted in the limy portion, threw out its peculiar bell-like flowers in the August following, but the plant unfortunately failed to reappear after its first winter. It is possible the conditions were not moist enough for it, or that the shock due to a very severe ice storm (thunder) we had in July, 1915, when the ice laid on the plants for several hours, may have affected its constitution.

(To be continued.)

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

VARIOUS QUERIES (*Essex*).—Rose à Parfum de l'Hay will grow as tall as C. F. Meyer; so also will Nova Zembla, the white sport of the latter. Most of the Rugosas will attain a height of 8 feet if not pruned much. Stanwell Perpetual we have on a lattice fence growing to a height of 6 feet, and it would go higher than this if left unpruned.

ROSES FOR BURIAL GROUND (*Enquirer*).—We think the following varieties would suit the position very well: Moonlight, Boule de Neige, Gloire Lyonnaise and White Tausendsehön.

THE GREENHOUSE.

INJURY TO LEAVES OF PRIMULAS (*M. S. D.*).—The spotting of the Primula foliage is due to errors in cultivation and probably to permitting the plants to become too dry for a few hours, or possibly to failure to ventilate sufficiently early in the morning and subjecting them to very close conditions for a time.

FRUIT GARDEN.

FRUIT TREES ATTACKED BY CATERPILLARS (*Tudor*).—Lead arsenate is the best material for spraying trees attacked by caterpillars, and it should be done just after the buds of the trees burst, *i.e.*, as soon as the caterpillars are seen feeding by someone who will keep careful watch. You should obtain particulars of one of the wheel sprayers for orchards from such a firm as the Four Oaks Company of Sutton Coldfield.

CLUSTERS OF APPLE BLOSSOM WITHERED (*W. W. K. and F. W. B.*).—The common cause of the withering of the flower clusters of Ecklinville Seedling is the attack of the fungus of brown rot (Monilia). The best remedy is cutting out all the affected shoots and burning them, and this may be fortified by spraying with Bordeaux or Burgundy mixture just before the flower buds burst. All Apples showing the brown rot in autumn should be removed and burned, not allowed to remain and become "mummies" on the trees or on the ground beneath, for it is partly through these "mummies" that the disease spreads from tree to tree and is carried over from year to year, the fungus also in the shoots helping in that direction.

THE SCALDING OF GRAPES (*J. Farley*).—This disease is termed "scalding," because when suffering from it the berries appear as if scalded or parboiled. It is caused through the want of sufficient ventilation in hot weather, such as we have lately been having, especially in the early morning, in order to dry the night moisture from the Vines before the sun shines upon them. The only way to stop its progress is to ventilate freely during hot weather, day and night. Should a spell of colder weather come, still ventilate freely, but have a little warmth in the pipes at night to help the free circulation of air. Scalding always happens soon after the stoning-time; bear in mind to guard against it next year by giving freer ventilation at this time as above.

PRUNING LATERAL GROWTHS ON A VINE (*G. H.*).—The spur or branch on which the Grapes are borne should be stopped at the third leaf beyond the bunch. The stopping of this branch will naturally be followed by young shoots (termed laterals) growing out of it. These should also be stopped at the third leaf immediately it is formed. Other shoots will issue in due time from these stopped laterals (these are termed sublaterals). They should be stopped at the second leaf as soon as it is formed. A heavy strain will now be imposed on the roots of the Vine in developing and maturing its heavy crop of fruit. This should not now be expended on the growth of surplus foliage, which only helps to draw sustenance which is greatly needed, not only by the fruit now swelling rapidly, but also by the permanent leaves of the Vines, which are its lungs. Your greatest care should be to protect these and to see that they are developed to the greatest health and perfection possible. After the fruit is ripe it is the practice of some good Grape-growers to encourage the free growth of sublaterals, believing that by so doing the fruit-buds for next year's bearing are better developed and plumped up than would be the case without. Where the main leaves have been destroyed by red spider or weakened in some other way, we believe this method to be on the right lines, but not otherwise.

INJURY TO GOOSEBERRIES (*Boris*).—The fungus-like growth on the Gooseberries is really a lichen, not a fungus. It does no direct damage to the trees, but damages them indirectly by interfering with their respiration and with the incidence of light upon them. In order to destroy it, it would be well to spray the bushes in winter with a wash made by dissolving 1lb. of caustic soda in 10 gallons of water. The green caterpillars are best destroyed now by dusting with Hellebore powder, as the poisonous properties of this material will be dissipated before you will be using the Black Currants for food.

BROWN ROT ON APPLE SHOOTS (*T. B. G.*).—The shoots of the Apples sent appear to be attacked by brown rot. This passes the winter in the shoots, and such shoots often die later on in the same manner as have yours. They should all be cut out and the trees sprayed with Bordeaux or Burgundy mixture.

YOUNG APPLE, PEAR, PLUM AND CHERRY TREES NOT FRUITING AFTER ROOT-PRUNING (*W. S.*).—It is not often one hears of fruit trees being so obstinate. Your soil is evidently rich in elements which go to form gross wood and foliage, and possibly the trees are growing in a more or less sheltered position, which would help to make matters worse as regards ripening of the wood and fruit-spurs of the trees, this no doubt being the root of the difficulty. The only remedy in a case like yours would be to take up the trees in autumn, to root-prune and replant them in a more porous and lighter soil, and when planting to raise the soil 5 inches above the ordinary ground-level. Plant the trees near the surface—certainly not deeper than 6 inches below the surface. Add the following ingredients to the natural soil at the time of replanting: To a barrow-load of the natural soil add half a bushel of gritty road scrapings, a gallon of lime, and the same of crushed old brick-ends and mortar rubble. Also add half a gallon of bone-meal to the new soil of each replanted tree. Give a mulching of short, well-decayed manure to the surface soil after planting, and renew at the end of April to prevent the elevated surface soil from drying up too quickly.

KITCHEN GARDEN.

CABBAGE-ROOT MAGGOT (*G. J. W.*).—Insect pests of all kinds except aphides are unusually numerous this season, and usually are after a hard winter, contrary to the ill-founded idea that hard weather kills many insects. Your Cabbages are attacked by the Cabbage-root maggot, a very destructive pest. Cabbages, Cauliflowers and all allied plants are liable to attack. Earthing up the old plants with moist earth is a useful measure, but better still is the use of a flat card disc put round the base of the plant so as to prevent the fly laying its eggs so near the plant that the larvæ can reach it to begin feeding. These discs can be made at home or purchased of Mr. Robinson, Dow Street, Chorlton, Manchester. Another preventive measure lies in dusting sand or sawdust moistened with paraffin all along the rows at intervals so that there is always the odour of paraffin about the plants.

STERILE POTATOES (G. W., *Radnorshire*).—It is nothing unusual to find a sterile tuber here and there among an ordinary plantation of Potatoes, but to find two or three rows together refusing to grow is a most uncommon experience. Something has evidently been at work destroying the vitality of the growth germs (the eyes). It could not be frost, because the tubers are quite firm but partly diseased, with wormholes here and there. Wireworms have been most destructive this year. Is it possible that these destroyed the eyes? We suggest that you carefully examine the soil for this or some other pest responsible for the mischief. Midlothian Early.—We are interested and glad to know you were able to restore your seeds to usefulness after they had been badly frozen. You have been more fortunate than many in this respect.

MISCELLANEOUS.

NAMES OF PLANTS.—*Constant Reader.*—Rose Cecile Brunner.——*Miss B., County Antrim.*—Olearia macrodonta and Calceolaria polyrrhiza.

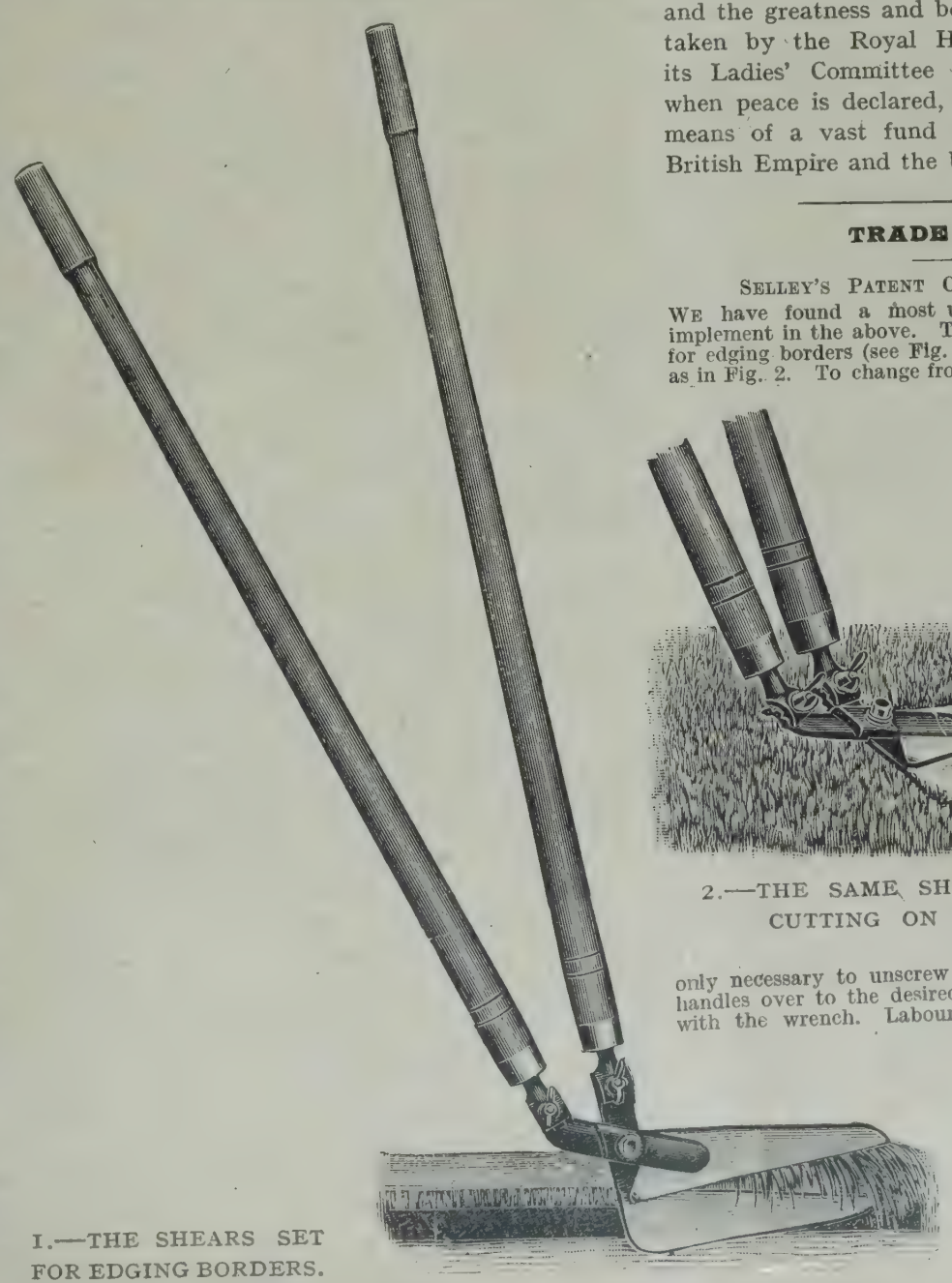
Trial of Tall Bearded Irises at Wisley, 1917.—Awards of merit have been made to the following tall Bearded Irises by the Council of the Royal Horticultural Society after trial at Wisley: Dominion, sent and raised by Mr. A. J. Bliss of Tavistock; I. pallida dalmatica, from Messrs. Forbes, Messrs. R. Veitch, and Wisley; I. pallida Princess Beatrice, from Messrs. Barr and Messrs. Bunyard. I. pallida Rev. W. Wilks, sent by Messrs. Bunyard, is identical with I. p. Princess Beatrice.

The Gardening Industries of Our Allies.—A most successful meeting was held at 25, St. James's Place on Saturday afternoon, June 16, by kind permission of Lady Northcote, C.I., to meet the County Presidents of the Royal Horticultural Society's War Relief Fund and to promote the interests of this very important organisation. Lady Northcote, as chairman, opened the proceedings with a striking little speech. The Right Hon. The Speaker and Mr. H. J. Mackinder, M.P., were both present and made inspiring speeches, emphasising both the utter desolation of the country districts in those lands overrun by German troops and ruined by German Kultur, and the greatness and beauty of the work undertaken by the Royal Horticultural Society and its Ladies' Committee in proposing to restore, when peace is declared, the vanished gardens by means of a vast fund collected throughout the British Empire and the United States of America.

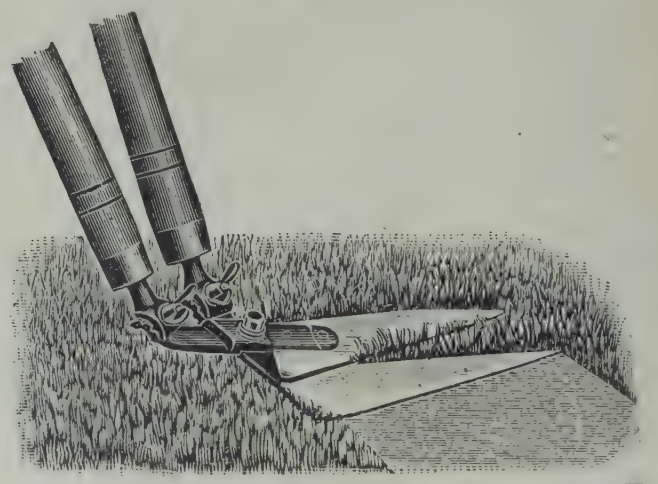
TRADE NOTE

SELLEY'S PATENT COMBINATION SHEARS.

WE have found a most useful and convenient garden implement in the above. The shears may be used either for edging borders (see Fig. 1) or for cutting on the level as in Fig. 2. To change from one angle to another, it is only necessary to unscrew the wing nuts and turn the handles over to the desired angle, then screw up firmly with the wrench. Labour-saving devices of this kind are worthy of close attention. These shears are supplied by the well-known tool makers, Messrs. C. T. Skelton and Co., Limited, Sheafbank Works, Sheffield.



1.—THE SHEARS SET FOR EDGING BORDERS.



2.—THE SAME SHEARS CHANGED FOR CUTTING ON THE SURFACE.

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FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

WITH the arrival of the intensive system of poultry-keeping came the dry mash method of feeding, which to-day has very many followers. So far this newer plan of feeding has been strongly recommended because of the labour, time and trouble saved when compared with the wet mash method. Now, however, I see another great advantage that it offers.

The Digestive Organs.—Very few poultry-keepers trouble to study the *workings* of the hen, although a perfect knowledge of the same is essential to the best egg-results. The best simile I can think of was the motor boom. Plenty there were who could drive a machine, but how many knew the mechanism? To avoid breakdowns in Biddy's digestive organs we must know what happens to the food after it is picked up in her beak. In the first place the food is not masticated in the mouth; instead it is swallowed whole and passes into the crop, where it is softened by the juices present. From the crop it passes to the stomach, an organ which nine out of ten poultry-keepers think is absent in the fowl. Here also the food is softened before it passes into the gizzard, where it is ground to a paste. After leaving the gizzard it is either wasted or goes to nourish the individual fowl. Thus simply put, the poultry-feeder has not a volume of long words to study.

Action of the Gizzard.—The gizzard is a very important organ of the digestive tract, and it is highly important that it should be kept active and running smoothly. It is a very busy organ, since the action of grinding the food, whether there is any there or not, is perpetual. If the crop and stomach do not do their duties, owing perhaps to being compacted—due to overeating on the part of the hen—the gizzard refuses to act as a corrective. In such a case it usually breaks down completely and the engine stops. In most cases harmful results accrue unless a remedy is applied before the food in the gizzard turns sour. Two agents are employed in the grinding of the food into a paste: (1) the walls of the gizzard and (2) the grit always present in that organ. The walls are muscular and strong, and pound the food against the grit much as one would rub his closed right fist in his open left hand, *i.e.*, to and fro. It is imperative, therefore, that the fowls should be provided with grit—the sharper and more sided the better—*ad lib.*, so that there will always be a reserve store in the gizzard to assist the muscular walls of the latter.

Grain and Soft Food.—No doubt many of my readers have given their fowls grain and soft food daily for years and yet have not troubled to find out why. In fact, I have never seen the subject touched upon by any other writer. Grain is necessary to provide suitable material for the gizzard to grind down, and the meals are given in a soaked condition to aid digestion. At first you may be inclined to tell me that this is contradictory, the one putting a strain on digestion and the other helping matters. For this peculiarity, after a very deep study of feeding matters, I blame *domestication.* When the hen was enjoying the free range Nature originally planned for her, she was eating all day long. She trotted on and on, sampling this and tasting that, and while she varied her menu to a nicety she did not gorge herself. Bearing this in mind, now take the case of the domestic hen of to-day. Two full meals a day are provided for her, and in a few minutes she has swallowed her warm breakfast of soft food and the grain at tea-time is devoured in a short space of time. To give a concrete case, then, the hen of to-day is compelled by domestication to eat in half an hour or so what it took the wild hen of yesterday all day to collect.

Weak Digestive Organs.—Carried on for so long, this mode of feeding has rather weakened the fowl's power of digestion, and this being so, we must be most careful in our methods of feeding. Grain is useful because it encourages exercise, takes time to be scratched for and picked up singly, and keeps the gizzard active. Soft food is given because it is eaten up rapidly, and being partly softened it is the more readily digested. At the moment many have given up the system of feeding grain to the birds, which is a great mistake. Where two meals of wet mash are given per diem (the second being in place of grain) the gizzard will become inactive and its walls will become limp and useless. Where grain is not fed I can suggest no better plan than the combination of wet and dry mashes. The day mash will ensure the safe working of the gizzard, which duties up to now have fallen to the grain.

Dry Mash Hoppers.—When adopting the dry mash system of feeding, the meals are mixed in their dry state and placed before the fowls in a hopper. The latter is a self-feeding appliance, and the food is placed in the body of same. The mash automatically fills the feeding cups fixed at the bottom of the hopper, and as the food is eaten, more drops from the body of the appliance into the cups to take its place. The appliance is a splendid labour-saving idea, since it can be filled with sufficient food to last for three, six or more days without replenishing. What this means to a person who runs mammoth intensive houses, each holding four or five hundred birds, can be readily understood. The best hoppers are those which guard against the wasting of the food brought about by the birds brushing out the mash with their beaks. Again, where a lid is fitted to each cup, the hopper can be closed up at night to discourage rats and mice, and the hens can be allowed access to the mash as desired. Many keep the hoppers open all day, while others close them during some periods in the day.

Selecting a Dry Mash.—Practically any ingredients used in the soft food can be used in the dry mash. The selected meals and offals are taken in their dry state, and after being properly mixed they are placed in the hopper, the latter receiving the desired amount according to the number of days the food given is to last. Where very many birds are run in a flock, several hoppers can be used, and the smaller kinds can be adopted as grit, shell and charcoal receptacles. They are hung on the wall or the side of the house (inside) at a convenient height. Clover or alfalfa (lucerne) meal, or a combination of the two, should figure prominently in all dry mashes, as should bran, and a sample dry mash may consist of bran, 2 parts; clover or alfalfa meal, 2; gluten meal, 2; palm kernel meal, 2; fish meal, 1; and cocoa meal, 2 parts. The latter are by weight and not measure. Clover meal breaks up the mash to a nicety, and it is a succulent foodstuff and invaluable for egg-production. One can always provide ample variety in dry mashes. There are numerous splendid dry mashes on the market sold ready mixed for use, and if these are not used exclusively they can be brought in as a welcome change to secure our varied diet.

Methods of Feeding.—Supposing you had decided to adopt the dry mash system in combination with the wet one. The first point to remember is that ample raw greenery should be provided. This greatly aids digestion! You might adopt many plans, but I give a few suggestions to help you. Many leave the hoppers open all the day, which is quite in order if the fowls do not overeat. Personally, I like to close the hoppers of dry mash during a certain part of the day. One week, for instance, you might give soft food for breakfast, greenstuff at midday, and leave the hoppers of dry mash open from two o'clock in the afternoon until roosting-time. The next week the plan of feeding might be slightly revised so that you opened the hoppers in the morning, gave greenery at midday, and provided the soft food at night. As a change a little scratch feed of grain in the litter can be given to provide exercise and occupation. As with all systems, there are deviations, and each reader is recommended to judge his feeding by the egg-returns of his birds. In the majority of cases poor egg-baskets can be traced to wrong feeding, and if the poultry-keeper bears this in mind and is prepared to go to a little trouble to put things right, he will be amply repaid by way of eggs.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.2.*

Opportunities in Guinea-Fowl.

'HY the guinea-fowl has no been specially bred for laying purposes has always surprised It is an excellent layer, and I am sure that selective breeding and rearing one could estab- a strain of prolific egg-producers. At the sent time the guinea-fowl is regarded more as ornament to the farm, but it does not figure ominently on every farm as it should do. I rather against the old-time method of allowing birds to roost in the trees. It is true that such a position they make excellent watch-dogs d weather-prophets, but I am interested more the utility side. An Airedale will tell the owner en Mr. Burglar is about, and a weather-glass l do the needful in the other direction. Guinea- l are nervous little birds unless they are brought tame from chickenhood. If from an early the guinea-fowl are handled as if they were linary chickens, they can be schooled to roost night in an ordinary poultry-house instead of ing to the trees. They are splendid table ls, their flesh having a "gamey" flavour.

Precautions Against Gapes.

ARGE numbers of chicks die annually from gapes, the gape or "forked" worm finding its y into the trachea and causing the chick to sp for breath. It is doubtful whether the act causes can be named, but I am rather of opinion that sparrows are the carriers of these ublesome worms. Instead of worrying about causes, I strongly recommend poultry-keepers adopt precautions against outbreaks. It is a od plan to allow all chicks from a week to a few nths old a little finely minced onion (or tops) the soft food daily. This will guard against se worms; as will camphor. A few flakes of ck camphor should be added to a jug of boiling ter, and when the latter is cold it should be en the chicks to drink twice a week. A fresh ring-ground should be selected each season the chicks, and, after the rearing season is r, the ground should be treated with spent e. Coops should be kept well lime-washed, little Izal fluid being added to the prepared sh, and clean housing is essential. Drinking ter should be kept in the shade, as it is imperative t sun-heated or stagnant water should be with- d from chickens. In cases of outbreak, isolate ailing chicks directly the symptoms are noticed. extract the worms, strip the fluff and web m a feather, leaving only a little at the top. this in turpentine, and having gently inserted feather in the trachea, twist it and withdraw. e worms will be found attached thereto. The ening to the trachea is the small aperture at base of the tongue. Repeat the operation ny times at intervals.

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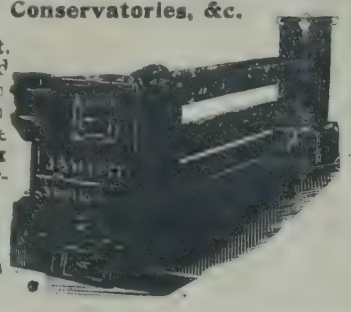

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THE GARDEN

A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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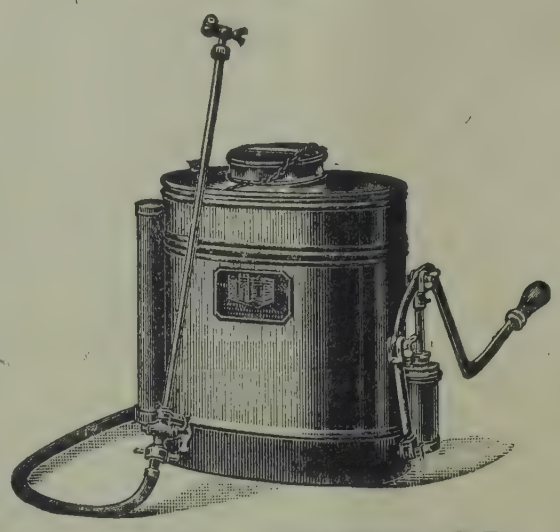

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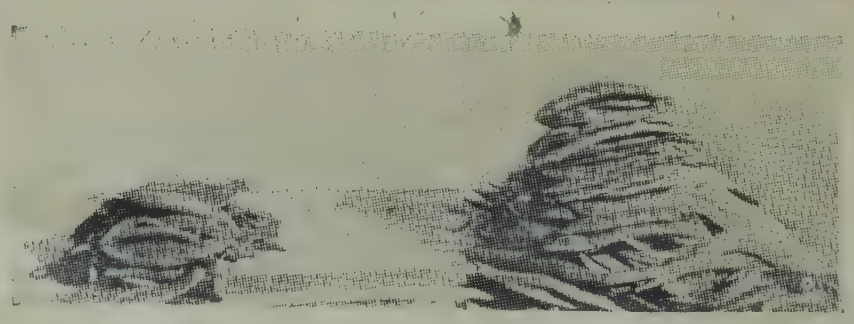

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THE GARDEN.

No. 2382.—Vol. LXXXI.] [July 14, 1917.

NOTES OF THE WEEK

On the success or failure this year the future of Potato spraying largely depends. It is possible—we might almost say probable—that the spraying of Potatoes will be made compulsory next year. Many allotment societies have appointed one or two men to spray all the Potatoes grown by the members of their societies. We have heard of cases where certain members have refused to have their Potatoes sprayed—such members are a danger to the community—but the difficulty has been overcome, at least in one district, by the "official sprayers," who are up very early in the morning and spray all plots alike, "whether they want it or not." To make a complete success of spraying, it would be necessary to appoint inspectors in every district. At present the Food Production Department only deal with orders for one or more cases of spraying material, and as one case makes 830 gallons and is sufficient to spray three acres, owners of gardens would be well advised to try one of the many proprietary mixtures recommended for this purpose. The accompanying illustration shows the "Stone-house" sprayer in use with Keeling's Spraying Mixture as a method of protection against the Potato's worst enemy.

Spinach: A Useful Crop to Sow Now.—By many, Spinach of all sorts is regarded more as a speculative than a certain crop; but the fact should not be forgotten that last winter, when frost had permanently destroyed the appearance of many reputed hardy crops, this gave a continuous supply all the winter. In many gardens where Spinach is highly valued, sowings made from now until the end of August are confined to the Round-seeded; but where the land is exposed to full winter's blast, the Prickly-seeded invariably proves the more reliable.

Pea Triumphant.—It is generally admitted by growers of second-early or main crop Peas that some of the finest all-round varieties are found among those growing between 3 feet and 4 feet high. Were we asked to name a trio, Triumphant would certainly be one of the varieties selected; yet it is by no means a novelty. We have grown it nearly every summer since 1898, and this year the size of pod and weight of crop certainly equal anything we have yet seen. It grows about the same height as Gradus, but a healthy row will carry double the crop of that popular variety, and this year, sown on the same date, it was ready to gather a few days in advance of it. Sowings made in former years from May until the end of June show Triumphant to be equally good for later sowings.

Watering Runner Beans.—The fact does not appear to be generally recognised that the Runner Bean is one of the most thirsty of all cultivated vegetables. Where the soil is of a retentive nature and heavy manuring and deep digging have been practised, artificial watering may be delayed until pods are abundant; but any reader having a light, badly worked soil to deal with who neglects to water the plants until this stage is reached, in a dry season pays very dearly for the neglect.

Celery Hints.—There is not the least doubt that a lack of appreciation of the natural requirements of a plant on the part of the gardener—amateur or professional—is largely responsible for indifferent success, while, conversely, the highest excellence is only attained by a due appreciation of the facts and applying them to everyday practice. How many ordinary gardeners, for example—if we may judge by their actions—realise to the full the moisture-loving nature of the Celery or know that in the wild state the plant invariably inhabits wet ditches and marshy ground? Yet it is one of the chief finger-posts to success. In his excellent book on vegetables Mr. Beckett says "it is hardly possible to give Celery too much water," and all good gardeners realise the importance of the remark. Water, indeed, plays an important part in the successful cultivation of the plant, promoting that rapid, continuous growth which ensures early maturity as well as those qualities of crispness and tenderness so much appreciated. Some of the finest Celery we have ever grown came from a bit of

SPRAYING A PROMISING CROP OF POTATOES.

black boggy ground where water was present in winter and summer alike at 18 inches deep. Here, in conjunction with heavy dressings of manure—another essential in the case—progress was rapid and excellent material resulted weeks in advance of that on land near where the natural food of the plant was not available. But where it is not, the gardener should bear in mind the water-loving nature of the plant and do his best to meet its requirements.

Golden Elder.—The reference to Golden Elder on page 244, issue June 30, reminds us of what is probably the earliest mention of this useful plant in garden literature. It occurs in "J. W.'s" "Systema Horticulturæ, or The Art of Gardening," one of the classical books of the seventeenth century. At the end of Section II., Book II., the author records the finding of an embroidered-leaved Elder tree in a hedge by a gardener near London in 1674, which "he transplanted into his garden as no small curiosity." As no gilded or embroidered Elder is mentioned by Parkinson, Blake or Rea, it is quite "on the cards" that this gardener's find was the first introduction of the plant into cultivation. Parallel cases are Mr. Coey's find of his beautiful silver-leaved Pittosporum and Mr. Bowles' discovery of his Golden Sedge (Carex strictus) on the Norfolk Broads.

Philadelphus latifolius.—A fine group of this beautiful Mock Orange is at the time of writing in full flower not far from the Timber Museum at Kew, where it not only convinces one that it is the best of the larger-growing species, but also one of the most decorative shrubs in flower at this time. A native of the South-Eastern United States, it was introduced a century ago, but never appears to have been so widely grown as Philadelphus coronarius. From that species it can be recognised by its more vigorous habit, bolder leaves and larger, pure white flowers. Mature plants may attain a height of 20 feet with a very wide spread. The leaves are broadly oval, up to 5 inches long and dark green; while the flowers, which are not so strongly fragrant as those of the common Mock Orange, are nearly 2 inches across and in racemes of five to nine flowers each. It is easily raised from cuttings in summer and grows well in any really good soil.

National Diploma in Horticulture.—The 1917 examinations for the National Diploma in Horticulture—established by the Royal Horticultural Society in conjunction with, and by the approval of, His Majesty's Government—were held at the Society's Gardens at Wisley in June. The Diploma has been bestowed upon the following, who have satisfactorily passed the Final Examination. Section II.: General Horticulture.—Hilda Margaret Bertha Thrupp, The Nurseries, West Clandon, Surrey; and May Heron, 5, Wellington Road, Handsworth Wood, Birmingham. Section V.: Landscape Gardening.—Robert Vernon Giffard Woolley, Far Croft, Lapworth, Warwickshire. Section VII.: Horticultural Inspection.—David George McIver, 8, Silver Street, Enfield, N. Further, the following candidates satisfied the examiners' requirements in the Preliminary Examination: Charles Henry Oldham, 23, Mill Street, Stafford; Lucy Henrietta Joshua, 58, Forest Road, Kew; Lottie Kate Herring, Horticultural College, Swanley; and Eleanor Robb Thornton, Botanic Garden, Cambridge. These candidates are accordingly eligible to take the Final Examination in 1918 if they have then spent six years in regular garden work, or as soon thereafter as they can satisfy this requirement.

CORRESPONDENCE

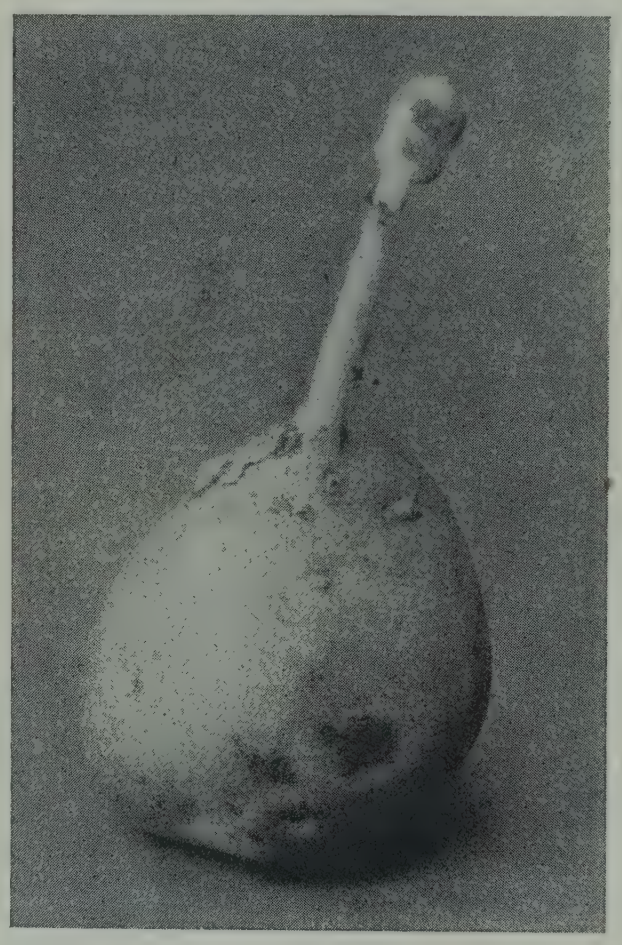
(The Editor is not responsible for the opinions expressed by correspondents.)

THE GARDEN AND THE WILD GARDEN.

IN all the evidence we have of our human story a garden was always called a garden, and owing to needs of approach, convenience of working and defence against enemies, far too many in old time were geometrical in outline. In this county where I write and in Kent 300 years ago there were many fortified castles where the lady had to do all her gardening within the walls. In Italy of the thousand hills the Italian could not garden at all without levelling and terracing the ground. The useless terms "formalities" and "informalities" were not applied by gardeners, but by men who knew nothing of the art and boasted of the fact. The wild garden has nothing to do with garden design. I wrote the book and ought to know its meaning. It is the naturalisation of hardy flowers where they will grow as freely as at home, in copse, ditches, lanes, on pond and stream sides, and in woods. In all these I practise it and even in meadow cut for hay. This year we enjoyed the blue Apennine and the scarlet Anemones, and with many other early flowers in meadow grass cut for hay on June 15. It may be practised in every country place and even in the farm. Apart from the artistic result in effect, there is a deep lesson for the gardener in it in giving him the loveliest of spring gardens without the costly trouble of breaking up his flower garden twice a year, and that to usually get a very ugly result with much wasted labour. The gain to the flower garden is great, as in a true flower garden three parts of the plants should be permanently planted and cannot be well enjoyed in any other way—Lily, Rose, Clematis. The ground at our hand is often better for the wild gardening than any planned surface would be, the only things essential being some knowledge of the plants to use and modesty in their use, as the thing may be overdone, as in some of the public gardens in London. A group is often more effective than bulbs dotted all over the surface like tiles on a house. The wild garden idea may be, and often is, confused with the picturesque garden, a much more serious affair and one that should be the subject of the most artistic effort, dealing as it should with all the conditions and problems that affect the beauty and the economical working of a country place—wood and water, trees and their grouping, shelter from the worst winds, breadth and views, drives which may bring neighbouring landscape into view, easy of access, with the simplest lines (many places are spoilt by needless or abandoned roads). The wild garden may be seen here too, but its effect only as a passing incident. Its only drawback is that its effects are transient. With the beauty of the cloud it passes almost as rapidly away, and three parts of the year I have to regret that the prettiest things of the wild garden are in the haystack. But where should we be without the cloud and the miracles of the spring? If I have failed in these words to make the matter clear, I fear I must give up any further attempt to do so.—WILLIAM ROBINSON, *Gravetye Manor.*

SOIL ANALYSIS AND THE "BIG FOUR."

IT is pleasing to note the great revival that is taking place in gardening, and let us hope it is only the beginning of still greater efforts in this direction. In some places scientific instruction is already being given to the amateur on such subjects as the treatment of disease or fungoid and insect pests which affect plants. There is one point, however, which seems to be overlooked, and which may be regarded as the most essential, namely, the chemical constituency of the soil. It would be a great thing if each collection of allotment holders could be given information as to this, free of charge. They would then know what their soil lacked, and this could be applied in the exact proportions for the crop desired, thus effecting a saving of time and labour with an increased rate of production. A large grower taking over land would have an expert analysis of his soil, and be amply repaid for the trifling cost of this by the results gained, only adding the manure required by the crop he intended to grow. This applies equally to the small cultivator. Now, the four primary constituents of plant life are nitrogen, phosphates, potash, and lime. Plants require these in various proportions, according to whether they are grown for their leaves, roots, seeds, or flowers. Thus it can be clearly seen that a knowledge of their soil and this "Big Four," as they are called, would be a great help



AN EARLY POTATO "GROWING OUT."

to thousands of amateur gardeners throughout the country. Next year the need for manuring will be more apparent; then let it be scientifically performed. Haphazard methods in this respect are waste of time and material.—F. MARSHALL.

GARDENING IN TUBS.

I AM so delighted to find Mrs. C. W. Earle writing in THE GARDEN. It is like getting fresh glimpses of an old acquaintance, for her volumes of "Pot-Pourri" have long been among the choicest treasures of my flower book shelf. Miss Marianne North's "Recollections of a Happy Life" sit next them, and the Rev. J. Jacob's "Daffodils" and "Tulips" live in the same terrace, together with Thoreau's "Walden" and some of Richard Jefferies' books, including "Nature near London" (which tells of places near Surbiton well known to me in schooldays. I spent many happy hours on the little common opposite Jefferies' house. There I first found a Sundew and the "Penny-pies" or "Penny-wort" so abundant in Devonshire). Mr. William Robinson's "English Flower Garden" *ought* to be on that same shelf, but it is not a neighbourly volume somehow, so finds a place on the reference shelf among the dictionaries; and Mr. Bunyard's "Apples and Pears" lives with other *fruit* books, of course. To return to Mrs. Earle's writings. Her article referring to tub and pot gardening in THE GARDEN of June 30, page 252, particularly appeals to me. I have recently taken to this form of gardening, since I have, alack! come to an age when squatting on one's heels in "coolie fashion" is no longer easy, and I prefer to do my personal bit of gardening "on a shelf." Tub gardening can be carried on on a wheelbarrow, and the completed tub then easily conveyed to its destination. One *very* great advantage of tub gardening is that the soil and situation of each tub can be suited to the special requirements of its own "Diogenes," so that a greater variety of plants can be successfully grown in a small space; also slugs and other plagues can be defied. Another advantage is that a tub can be brought to the fore just while at its best and relegated to the background when it is shabby. I think of lifting some of the latest-flowering Michaelmas Daisies into tubs this year and bringing them just under cover (not heat) during their flowering-time. Perhaps Mr. Beckett would kindly advise which would be likely to bear such treatment. I "tubbed" Antirrhinums last autumn; they flowered nearly till Christmas and began again in early spring. I am interested to find Mrs. Earle advocating hanging Pelargoniums topsy-turvy in paper bags. I have been told that my grandmother kept hers thus in North London, but when *I* tried this at Brighton during two winters the plants were ***dead*** failures! Possibly this was due to the sea air. Mrs. Earle's closing sentence in "Flower Garden Notes" exactly sums up my ideal of a country cottage garden: "The irregularity of height, colour, size and shape makes the charm, to my mind, in a garden where profusion and picturesqueness is the object—not tidiness and uniformity."—ANNE AMATEUR.

POTATOES "GROWING OUT."

EARLY Potatoes this year show a great tendency to "grow out," as shown in the accompanying illustration. This is doubtless brought about by the heavy rains after a long spell of hot, dry weather. Such Potatoes should be lifted early and used at once, for they can hardly be expected to keep and they would not improve if left in the ground. It is only with early Potatoes on very warm soils in the South where "growing out" has been noted. Luckily the main crops and late crops look remarkably well and have been improved by the welcome rains of the last few days.—WAYLAND.

BRUSSELS SPROUTS.

MR. GARNER enquires, issue June 23, page 233, concerning the raising of this excellent vegetable "in autumn for the production of the earliest produce in the following autumn," and has been quite rightly informed that market men do so raise their earliest batches of plants. The seeds are sown—not in October as he suggests, but from late August to mid-September—in firm ground in a perfectly open, sunny position, the object being to secure hard plants that will endure. Planted out in October where possible, the sturdy plants make but little progress during the winter, but are ready with the coming of spring to do their "bit." It is from such sowings and plantings that some of the finest Sprouts are put on the market annually in August. At such a time the amateur or cottager may have little need for them, having still fair supplies of Peas, also Runner Beans

and other things. On the market, variety is important, while it must not be forgotten that through its agency the thousands of town-dwellers who have no gardens get their supplies. Incidentally, the method makes it clear that the Brussels Sprout must have a long season of growth if the best it is capable of giving is to be realised.—E. H. JENKINS.

TOMATOES AND POTATO DISEASE.

IT happened that one Potato disease year I planted—for want of room—Tomatoes between every other row of Potatoes, the result being that only the Tomatoes were diseased. I have since only had Potatoes diseased when no Tomatoes were in juxtaposition. A notice of a seed Potato has just been shown me which it states produces both Potatoes and Tomatoes on the same plant!—HAROLD MALET (Colonel), *Racketts, Hythe, Southampton.*

[The fungus which attacks the Potato and produces the common Potato disease, namely, Phytophthora infestans, also attacks the Tomato, but there is some evidence that it is not at all easy for it to pass from one plant to another. We should like to have records from growers on this point. It is possible to graft the Tomato on to the Potato and so obtain a crop below the ground and another above, but so far as we know it has not proved a commercial success.—ED.]

MORE ABOUT GAS-LIME.

I WOULD like to point out to your correspondent who in THE GARDEN for June 2 deprecates the use of gas-lime that there are advantages in its use which he appears to be ignorant of or ignores. Sulphur, which it contains, is an essential ingredient in all soil devoted to the growth of the Brassica tribe. But as the stench of sulphuretted and carburetted hydrogen is inimical to health, it would be better to add the sulphur to the soil in the shape of sulphate of lime—gypsum. Possibly it might prove a cure for club-root, and merits a full trial with a view to decide that point. At any rate, caustic lime in powder, air slaked, is seldom required in a properly kept garden. The addition of old mortar or chalk would provide all the neutralising material necessary for sour soil. Caustic lime will destroy all organic matters in the soil, and by making them soluble enable the rain to wash out the most valuable constituents. Is that the end desired by its advocates? If you have made your soil so undesirably fat that it needs such a drastic purgative, do you not think you have acted very foolishly? I trust that none of the professional gardeners will construe this screed into an attack upon their skill. The latter they must possess in superabundance in order to grow as they do the very fine vegetables and fruits I read about in THE GARDEN. If they can produce such results from skill only, what could they not grow if their chemical knowledge were improved? To help them on a trifle we will now give definitions. Lime, from the chemist's point of view, *i.e.*, caustic lime that has been slaked by the moisture of the atmosphere, is hydrated oxide of calcium. Chalk, which the professional gardeners nearly always refer to as lime, is carbonate of calcium. So that they are two very distinct chemicals. Except for whitewashing purposes, my dear professional gardeners have not the slightest use for, or need of, caustic lime. And please do not run away with the idea that lime, simply because it has absorbed moisture, has lost its causticity. The application of a very small amount to the eye (of someone else) will demonstrate that fact. Your expert refers to the destructive effects of gas-lime upon a tree and a fence. Well, the caustic lime whose use he advocates would produce exactly the same effects as did the gas-lime.—THE UNORTHODOX GARDENER.

THE PROSTRATE ROSEMARY.

BOTANISTS tell us that this plant (Rosmarinus officinalis prostrata) is merely a variety of the common Rosemary, but in my own mind I have always held this in doubt. Here it is usually one of the first plants to be killed in a sharp frost—a vivid contrast to the old plant, which is of such tough vitality. Mr. Irwin Lynch, in a note received some months ago, told me that it was not hardy with him, and I see that a good-sized plant on the top of my dry wall has been completely killed by the frosts of February, and this is the second occasion on which this has happened since I have grown the plant. Some cuttings in a cold frame stood the winter without harm, and now I am trying one or two of them in the face of the wall on the south side and in a position much sheltered from the east. As far as I can remember, this plant was found

THE OWNER OF THE REDISCOVERED FRAGRANT MUSK PLANT.

at Capri, so I suppose the long residence beneath sunny skies, accompanied by the absence of frost and the influence of the sea, has altered its nature and so made it unable to resist our winters. If the leaves of this Prostrate Rosemary are compared with those of our old Rosemary, it will be noticed at once that they are of a lighter green and of an altogether softer texture. If it is not a distinct species it is, from a garden point of view, of far less value than "the cheerful Rosemary," as Spenser calls it. Perhaps some day the Prostrate Rosemary may become accustomed to our sunless summers and steely winter nights, and then "it will thrive," as Phillips, in his "Flora Domestica," says of the common Rosemary, "when accidentally rooted in a wall or crevice of a building, and endure the greatest cold of our winters, however exposed to the wind."—A. R. GOODWIN, *Kidderminster.*

MUSK IN OTAGO, NEW ZEALAND.

IF "Foreign Legionnaire" is fortunate in raising sweet-scented Musk from New Zealand seed, I hope he will do us a good turn out here and send some back to us, for it is many years since we have had the pleasure of smelling Musk in Otago, New Zealand.—E. D., *North Otago.*

An Old-time Fragrant Musk Once More

FROM all parts of the globe we have received and published letters on scentless Musk, and we began to think that for some mysterious reason its fragrance had departed for ever. Not only in our gardens had the Musk ceased to give its old-time fragrance, but, as may be seen from the preceding letter just received from a reader in New Zealand, it is many years since Musk had its fragrance even in that far-off land. Strange to say, a fragrant Musk is at last reported from the garden of our esteemed and observant correspondent "Anne Amateur," who, in our issue of June 16, page 221, writes: "What *do* you think? I have a real old-time *fragrant* Musk once more—a chance plant under the kitchen window. Imagine my joy!" Needless to say, this announcement has brought letters of real *gratitude* from numerous readers, in reply to which "Anne Amateur" writes to say: "All available cuttings (seven) struck are already bespoken. The first application was from Kew Gardens, who wrote that they had tried everywhere, even sending as far as Vancouver, where the plant grown in gardens is supposed to have been originally obtained; but the plants received from there were as odourless as their own. Possibly later on there may be some more cuttings, and if so, the Editor of THE GARDEN will be informed. The original plant was a little 'twopenny pot plant' given to a little girl here a few years ago. It was planted out in the garden for some time, then repotted to save it from destruction during the building of the bungalow; then it was turned out, apparently dead, into the border made under the kitchen window. There it reappeared last year as a tiny plant, and this year came up strongly. Nearly all the sprays were gathered and brought to me one day by young Myrtle to cheer me up when I was ill, for she knows how keenly I appreciate fragrance. I smelt the Musk before I spied it, and then, perceiving it, had the gathered pieces struck in the ground forthwith and carefully watered and shaded, and so far they appear all right. I always thought a stray plant would turn up in *some* country cottage garden some day, but little supposed it would be my own. The seven cuttings are under *my* care, but I send a portrait of Myrtle, the actual owner of the Musk plant, taken in my garden bonnet and seated in my garden chair. There is no doubt about the muskiness of the Musk. Two of the household had observed it before the bits were gathered for me, but they did not know its rarity."

[Speaking from memory, we should say that this is the only recorded instance of fragrant Musk for at least eight years. For the past few years we have always made a point of smelling Musk in every garden in which we have seen it growing, but the last occasion on which we can call its fragrance to mind was in the Royal Gardens, Windsor (Frogmore), in 1904. It was there growing under the staging in one of the vineries, and its delicious fragrance after the house had been damped down can never be forgotten.—ED.]

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

"AUTUMN" SOWN ONIONS

It is always a good plan to make at least a small sowing of Onions to stand the winter.

THE best time to sow the seed is between mid-July and mid-August, according to the climate and the character of the soil, and up to the middle of September on nice warm soils. These Onions are not "autumn" sown really, but all those sown outdoors to stand the winter are, as a rule, regarded as such.

As already stated, at least a small patch should be sown, and this even in the tiniest gardens where Onions form a feature. Larger gardens should have proportionately larger plots. The crop always proves useful, and sometimes it is very valuable. Among the advantages may be mentioned the uncertainty of being able to make a sowing in spring at the right time and the liability of the spring crop to fail; large Onions of good flavour; a heavy crop free from attacks of the maggot; and a supply of green "spring" Onions in winter and early spring.

The soil must be rich and well prepared as for spring-sown Onions. The crop is a great lover of organic matter, which should be well incorporated with the soil, and the deeper the soil is mixed with this material the better the crop. Two feet is none too deep. The soil can scarcely be too rich, and such ingredients as soot, lime, wood-ashes and burnt vegetable refuse, well worked in, all help in this direction. The seed-bed must be equally as fine as that necessary for the spring crop. There is sometimes a tendency of running to seed if sown very early, but this can be avoided if the bed is kept fairly well watered with soot-water during dry weather, kept free from weeds, and the soil well stirred to conserve moisture. It is drought during late summer and autumn that is chiefly responsible for crops running to seed, both with Onions and Cabbages. Nothing less than the best cultivation will do for any crop, and for Onions it is absolutely essential if success is to be the result of sowing. While this crop should not be sown too early, there is danger in putting it off until autumn. On stiff soils and others of a clayey or poor nature, the middle of July and up to the end of the month is a good time—as a matter of fact, the best time—for sowing. On light, rich soils July 25 to the end of August is a time that generally gives satisfaction. It is often wise to make one or two sowings in succession at intervals of twelve or fourteen days, the first being made on ordinary or moderate soils about July 20. The practice of not sowing before the second or third week in August is a mistake—except, perhaps, on the best and richest soils—because if the plants are to stand the winter they must be allowed the chance of making growth and of getting a good hold of the soil while a part of the growing season remains. Ailsa Craig, Cranston's Excelsior, Royal Keeper, Premier, Record, Giant Rocca and Trebons are good varieties for late summer sowing. The produce of this crop does not as a rule keep so well as that from the spring-sown crop, but it comes in earlier and enables one to store the latter. Then there is the Tripoli. Every gardener should endeavour to have a few rows of this. Seeds may be sown fairly thickly or thinly in rows the usual distance apart. In the former case the seedlings must be thinned out, an operation that may be performed as the plants become of a useful size for transplanting or for salad. Of course, the best plants are left to harvest. But more about the after-cultivation and care of the crop later. In conclusion, I would ask the reader to pay strict attention to the proper preparation of the seed-bed, to sow the seed when the soil is nice and moist to the touch underneath and dry on the surface—not immediately after rain—and also to bear in mind that the Onion likes a firm bed, so that a soil leaning towards looseness must be consolidated in the way prescribed in these columns for the sowing of Onions in spring.

L. M. MARSHALL.

ONIONS SHOULD BE SOWN BETWEEN MID-JULY AND MID-AUGUST TO STAND THE WINTER. THE VARIETY RECORD IS HERE ILLUSTRATED.

The Dreaded Onion Fly

AS a victim of the dreaded Onion fly, I tender to you my thanks for your admirable article (issue June 30, page 245). Until some three weeks since, my bed of Ailsa Craig promised as well as anyone could wish, and I rejoiced to think that next winter my household would be well supplied with Onions; but, alas! it was a case of "the best laid schemes of mice and men gang aft agley," for one day I noticed some of the leaves lying on the ground as you describe. Suspecting the cause, I found on pulling up the affected plants that the pest had descended on me. I may here say that the plants were raised in heat and put out in April, and that they flourished until early in June. After planting out I frequently scattered soot and lime, and sometimes soot only, on the bed simply as a preventive measure, as I have never previously had the Onion fly here, and it is obvious that these supposed remedies or preventives can be marked off as useless. On discovering what I was in for, I put salt round each plant, but this proved no remedy. Next I adopted the recommendation in the Royal Horticultural Society's Diary (*inter alia*) of applying sulphate of ammonia, but I did not find it, as therein stated, "very unpalatable to the maggot," for it seemed to enjoy the dressing, neither did it "act as a strong stimulant to the plant, promoting in it such vigour that it will quickly grow beyond the attacking stage." A local authority advised me to try sulphur, so I set him to put it about each plant, but it was in vain. At this stage I found a bed of Giant Roccas which had stood the winter was also afflicted.

I am convinced that there is no remedy once a bed is attacked by fly but to pull up forthwith and burn all affected plants. I have not tried spraying with paraffin emulsion, but it may be a preventive. Hitherto I have been encouraged to believe that the object in raising Onions in heat in January and planting out in April was to defeat the Onion fly, as the plants would then be sufficiently strong to withstand its assault. If this is not so, why trouble to sow in heat? I may remark that my Onions were some 3 inches in circumference when they were attacked, so they needed no "strong stimulant" other than they got from a carefully-prepared and well-manured bed, which was not only trodden in orthodox manner, but it had a heavy roller on it on three occasions. The worst feature of the visitation is that I fear to try growing Onions again anywhere in the garden next year.

June brought me the Celery fly also. The pests this year "come not in single spies, but in whole battalions," as my Parsnips have a maggot in the leaves exactly similar to all appearances to that in the Celery. Is this usual?

DISAPPOINTED.

[We strongly advise sowing in August such varieties as Giant Rocca, Ailsa Craig and Spanish. These varieties winter in the open quite satisfactorily, and it is most unusual for such plants to be attacked by the Onion fly; but they have been this year, when, like nearly all insects, the flies are abundant. It is a common thing to find a great abundance of insect pests in seasons succeeding very hard winters. However, we know of many beds of so-called autumn-sown Onions that, having withstood the hard winter, are now producing excellent crops, whereas spring-sown Onions in the same gardens are badly attacked by the Onion fly. None of the measures that have been suggested are, or can be from the nature of the case, remedial. They are all, when adopted in time, more or less preventive. It is no uncommon thing for the Celery fly to attack Parsnips as well, while it is also known to attack Beetroot. Where the plants are small, the leaf-mining maggot within the brown patches on the leaves should be crushed between the thumb and forefinger, but with large plants the damaged portions should be removed and burnt at once. To prevent further egg-laying the leaves should be sprayed with Quassia extract or paraffin emulsion at intervals of a few days, while a sprinkling of sulphate of ammonia would encourage the plants to make rapid growth.—ED.]

VEGETABLE GARDENING AT ALDENHAM

IN horticulture, probably no trio of names is more indissolubly linked together than Aldenham, Beckett and Vegetables, an association not of circumstance or the moment—having already exceeded three decades—though it has to some extent remained for the most devastating war the world has known to stir Mr. Beckett's innate love of vegetable growing to its utmost depths. In saying this, one is not unmindful of the fact that for years the vegetable products from Aldenham have revealed the master mind, or of the good accomplished by his splendid exhibits of them in town and country alike—exhibits upon which have been lavished praise as great as that ever bestowed upon any flower exhibit yet arranged for the public's delectation.

Holding strongly the view that "unless a gardener can produce regular supplies of first-rate vegetables he fails lamentably," he is also firm in the conviction that the "professional attainments of the gardener are more often judged from the variety and quality of the vegetables and fruits he supplies for the table than from the beauty and arrangement of the flowers that adorn the table." Certainly at no time in the history of gardening was vegetable cultivation so much to the fore as now, or its value and importance to the community so fully realised or discussed as at the present time. Incidentally, the war has revealed the exceeding apathy of the people in not providing for themselves supplies of the most wholesome foods the earth produces, and of the need for putting to use some of the countless thousands of idle acres throughout the length and breadth of the land. It was with these things in mind and knowing Mr. Beckett's keenness in the matter that I gladly availed myself of a recent invitation "to come and see the vegetables." Knowing that, despite a much depleted staff and the introduction of alien labour into the garden—the erstwhile carpenters and painters on the estate are now trying their 'prentice hands at gardening at Aldenham—Mr. Beckett had saddled himself with increased responsibilities in vegetable culture, the visit was vested with more than ordinary interest, full as it would be to these famous gardens in normal times.

The Potato Field.—Of outstanding importance is the taking in of a thirty-three acre field for Potato cultivation alone. A rough pasture at the end of January last and the work of subsequently breaking it up repeatedly delayed by the severity of the long-continued winter, it is to-day a vast undulating sward of chiefly maincrop Potatoes, as, *e.g.*, Great Scot, Iron Duke (a pebble-shaped variety of great promise), King Edward and The Factor. With room to develop both between the plants and the rows, a firm, sturdy-looking growth—that best able to resist disease—was everywhere apparent. Healthy and promising in the highest degree, it was easy to see what an immeasurable boon a few hundred such acres would be to the nation in the forthcoming winter. A corner plot—a few acres—was devoted to winter greens.

It was not, however, in large areas alone that special effort is being made to increase the supply of food. The same thing is being done on a vast, if less straightforward, scale in the more recently made plantations which occur mile after mile. Here in every direction where opportunity occurs for a root or two of Potatoes—anon, perhaps, a short row—they have been given place, and on so large a scale will appreciably increase the total yield. Not exactly the place where anybody would dream of growing Potatoes, it is but the evidence of an intensive system everywhere prevailing and of the desire of making each yard of soil, so far as this is possible, to yield its quota of useful food. These two instances are characteristic of much that is being done without the kitchen garden proper.

Within that sphere there are untold acres of the finest produce conceivable. In the exhibition arena one has become more or less accustomed to the picture-making effects of the superb collections of vegetables staged by Mr. Beckett, little dreaming that like effects—if of a different pattern and on a vaster scale—were equally possible in the garden. Yet here they were, equally, if not even more, fascinating because of their perfection, and more imposing by reason of the vastness of the scale upon which everything is produced.

The Promise of Peas.—Peas in rows 100 yards long and 50 feet apart had between crops of Onions, Lettuce, Cauliflower, Cabbage, Turnip, or Kohl Rabi—not an inch of ground wasted. The Onions were by the acre. Sown thinly in boxes in early February and transplanted to their permanent positions in late March or early April, they were as good as could be desired, the thin sowing saving both seed and labour. The Peas, carefully hand picked, are all sown in boxes and transplanted. In this way the regular uniform spacing of the crop is ensured with, it is urged, an earlier and more continuous cropping by reason of the momentary check due to transplanting and the fuller development of the plants. In any case there was the promise of Peas by the bushel. Edwin Beckett was in full bearing at the moment, with Duke of Albany, Quite Content, Autocrat and others to follow on. Of all the crops growing at this point, the Peas and Onions have left the greatest impression on the mind, the almost entire absence of failures or blanks being alone remarkable. James' Keeping and Veitch's Maincrop Onions are mostly favoured for spring sowing.

Runner Beans are treated on all fours with the Peas, and the fact that they have started to climb stakes 10 feet to 12 feet high suggests that much is expected of them. Prizewinner, Scarlet Emperor and Best of All are among those finding most favour.

Cabbages Harbinger, April, Ellam's Early Dwarf and Flower of Spring, given in the order of turning in, are favoured for autumn sowing, with Sutton's Earliest, Tender and True, and Favourite for spring sowing.

Intensive Cultivation.—In frames early Potatoes, Carrots and French Bean were magnificent. Of the former, May Queen for earliest cropping was nearly done. Midlothian Early, its successor, was well in. Grown in a foot or so of old leaf-soil with but little addition, superb quality tubers had resulted. What applies to the one applies to the whole. Elsewhere Vegetable Marrows, started in frames, but now growing fully exposed, were yielding many dozens weekly, Moore's Cream, Prince Albert, Long Green and Custard being favoured; and so the list might be indefinitely extended. Enough has, however, been said to give an idea of the work which continues unceasingly throughout the year. On an equal footing with high-class cultural excellence everywhere must be placed a perfect system of rotation, by which means, as a result of ripe experience, gaps in the supplies are practically unknown. In this, as in all matters of gardening, Mr. Beckett has the generous support and whole-hearted sympathy of his employer—wholesome tonics in the circumstances whose value it is not possible to over-estimate.

E. H. JENKINS.

POTATOES AT ALDENHAM PARK.

The above photograph depicts a large piece of land in Aldenham Park which in February last was pasture and is now occupied by a healthy crop of Potatoes. The piece of land in question is about 30 acres in extent, and the principal varieties are King Edward, The Factor, Arran Chief, Iron Duke, Great Scot and Windsor Castle.

SPARROWS IN GARDENS

AFTER many years' experience of these cheeky birds I have come to the conclusion that while in a general way sparrows are a most unmitigated nuisance, yet they occasionally do good. As soon as the Crocuses began to develop, the sparrows in my old London garden set to work to pull them to bits, and Primroses shared the same fate. When summer came round, they were not nearly so troublesome, and they actually showed one redeeming feature. The plants in my old garden were particularly liable to be attacked by aphides; and one who has had no experience of a London garden will scarcely understand their rapid increase in such confined quarters. When they got very bad, despite syringing and all other attempts to keep them in check, the sparrows would swoop down in numbers and make short work of the insects. This happened not once or twice, but formed quite an annual feature. Now, in a more favoured locality the sparrows have lost their good quality, for while they will destroy seedlings of all kinds, they leave the aphides alone. In the spring they picked off the shoots of the Pinks. Thinking moisture might be their object, I stood out a couple of dishes of water, of which they quickly took advantage and left the Pinks alone.

H. P.

Vegetable Marrows

SOME of the best crops of Marrows are obtained from plants grown on mixed heaps of soil and odd garden refuse. Very little attention is given. On the other hand, we see nice plants growing on elaborately constructed hotbeds that fail to yield even an average crop of fruits. Too often the cause of failure lies in the bed itself, the soil of which is allowed to become too dry; then the young Marrows fail to set, turn yellow and shrivel up.

Expert cultivators know exactly how to construct the bed, treat the plants, and secure a huge crop of medium-sized fruits, which are so much to be preferred to the very large ones. The more closely the young Marrows are cut, the freer is the new growth and the formation of fruits on it.

At the present time cultivators will be anxiously watching the young Marrows as they grow. If any female (pistillate) flowers fail to set, and the plants are growing in a thin layer of soil on a dry bed of straw, give a thorough watering with clear water and then put on a layer, quite 4 inches thick, of really good soil. A bed of this kind needs saturating with water at least every week in dry weather.

Plants growing on low, flat-topped beds of rotted manure and loam, mixed, and those growing on the surface of beds sunk a little below the general soil level usually give the most satisfactory results. Although Vegetable Marrows are moisture-loving plants, they do not thrive and bear well later in the summer if the beds are constructed under the branches of large trees, as in a rainy season the drip from the latter is too much for them.

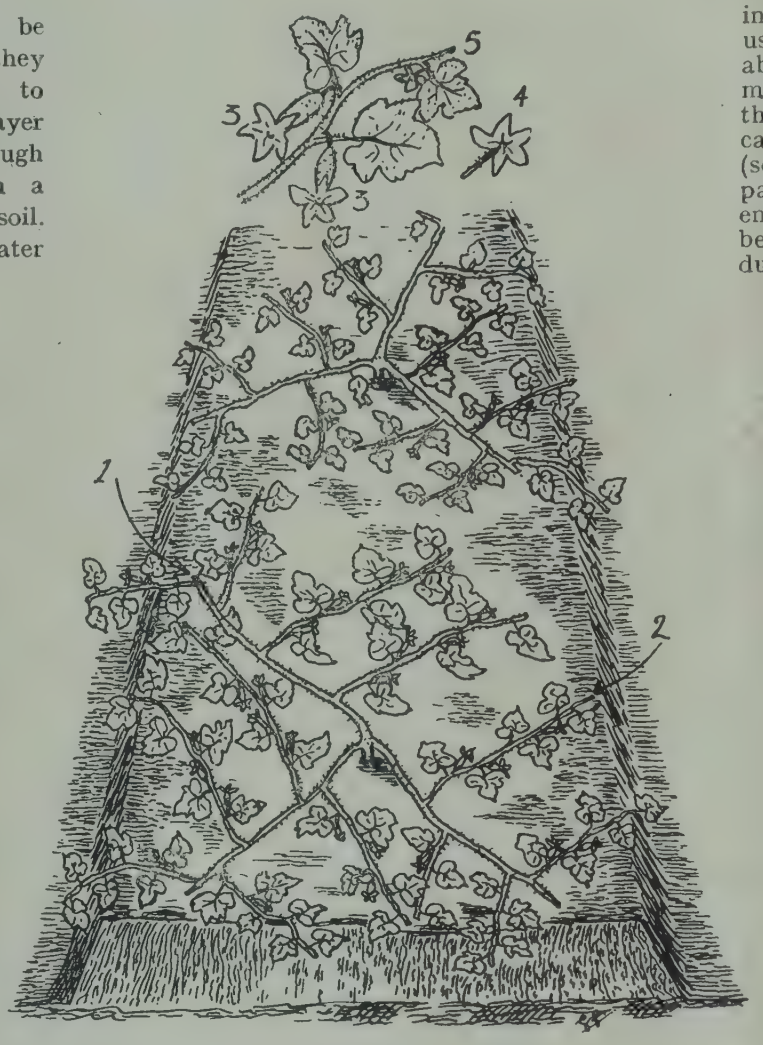
As the plants now become established and young Marrows form, stop the leading stems and also the side branches from them. The fruits will swell quickly, especially if diluted manure water is given. Continue the work of stopping as the new fruits form. G. G.

VEGETABLE & FRUIT DRYING

How are we to preserve the fruit and vegetable crops this year for winter use?

THIS is a subject of great national importance now occupying the attention of fruit and vegetable growers throughout the country. The Plum crop is good in certain districts. What is to be done with the Plums? In pre-war days, when Plums were over-abundant and it did not pay to market them, it was an all too common occurrence in the orchards of Kent to leave the fruit to rot upon the trees. Sugar or no sugar, such deplorable waste cannot be tolerated this year. No doubt a good deal of fruit will be bottled. This is an excellent means of preserving most soft fruit other than Strawberries, and sugar is not necessary at the time of bottling. But the great difficulty is that of procuring bottles for this purpose—there are not enough to go round. Others, no doubt, will follow the advice—issue May 26, page 187—and make pulp of the Plums without sugar. By sterilising the jars with sulphur fumes both before filling and on top of the pulp after filling, the pulp will keep perfectly well until the winter, and if the worst comes to the worst it may then be eaten without sugar. It is, in fact, sugarless jam. The great advantage of this method is that any odd bottles or jars may be used, and there are scores of them lying idle in most country homes. But even these means are not likely to cope with one-tenth of the crop that may be reasonably expected, and drying seems to be the only solution of the problem.

Cabbages.—Let us turn to the vegetable supplies. There is likely to be a glut of the Cabbage tribe in many gardens. How valuable this green food might prove next winter, and drying seems to be the only practicable way of preserving it. On the Continent there appears to be no difficulty in the way of drying vegetables, for it is carried out on an extensive scale and there is a great demand for dried vegetables for use in soups and for other kitchen purposes; but in this country the drying of vegetables is little understood and seldom tried.



THE VEGETABLE MARROW BED. COPIOUS SUPPLIES OF WATER ARE NECESSARY FOR THE SWELLING FRUITS.

1. *Shows main stem stopped.* 2. *Side shoot stopped.*
3. *Female (pistillate) flowers.* 4. *Male (staminate) flowers.*
5. *Branch stopped beyond fruits.*

Mint.—It is usual to dry a few herbs such as Mint for winter use, and the procedure is simple. The Mint is gathered dry and tied up loosely in bundles under cover; a shed where there is a brisk draught will answer admirably. The bundles are hung on strings or wires until the leaves are dry and withered. Artificial heat is then used to dry off the stems, and when quite dry the Mint is rolled up in the hands and sifted to clear the dust. It is then placed in wide-mouthed bottles and corked up securely. In such instances a greenhouse would make a suitable drying shed, especially if heated by pipes; but it is found that the colour is better preserved in vegetables when dried in the dark.

Broad Beans, which are now yielding uncommonly good crops, are easily preserved by drying. For this purpose the Beans should be left to ripen on the plants. Pick them in September when the haulms are turning black, and dry in an oven with gentle heat. The Beans leave the pods readily and may be stored in a dry cupboard, for preference in a tin box.

Peas.—Round or field Peas, such as the well-known Harrison's Glory, may be dried in a similar way, but Marrowfats are much inclined to shrivel and turn yellow when subjected to this treatment. Nevertheless, they are perfectly wholesome when dried. Green Peas are best soaked in a 10 per cent. solution of carbonate of soda; this preserves the colour and prevents toughness. It should be remembered that dried Peas and Beans are far more nutritious than those preserved in salt, owing to the fact that a high percentage of the protein is washed away with the running water in the unsalting process.

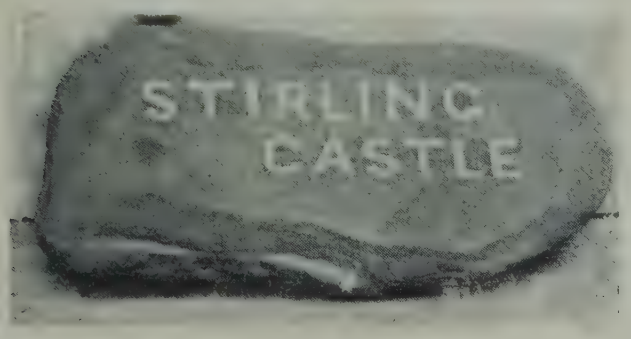
While the drying process is extremely simple with such things as Peas, Beans and Mint, it must be admitted that the drying of Plums and, let us say, the Cabbage tribe presents many difficulties. To be perfectly frank, we do not know of an inexpensive and satisfactory means of drying these crops which could be recommended for use in the average household. If readers could furnish us with particulars of the methods practised abroad in the preservation of fruit by drying, it might be of great utility to those growing fruit in this country. If Plums and Apples could be desiccated and stored in English homes, as in Switzerland (see "Suggestions for Drying Fruit," issue June 30, page 247), the economy in valuable food would be enormous. There are expensive drying machines to be had, but when only a few bushels of surplus produce are grown the purchase of an elaborate drying machine is not likely to prove a sound investment. Obviously it would not pay to set up an expensive plant to deal with the possibility of a surplus, such plant to lie idle in years when there is not a superabundance of garden produce. Demonstrations are being held in various counties by the British Fruit Evaporator Company, and their apparatus, known as the National Evaporator, seems to have given general satisfaction even among experts. The writer had the privilege to attend one of these demonstrations a few days ago, and in the hands of an expert knowing the right temperatures and the right length of time for drying the various produce the results were highly satisfactory. Plums, Apple rings, Potatoes, Cabbage, Sugar Beet and Carrots were among the subjects selected for drying. This evaporator, like others we have seen, consists of a wooden box divided into compartments of shallow trays. Each tray has a wire foundation tacked on to a wooden frame, and is so made that it may be taken out. The evaporator is heated by gas, and secures a free circulation of hot air over the material to be dried and the maintenance of an even temperature for hours, and these conditions are essential for the drying of fruits or vegetables either for domestic or commercial purposes.

Hitherto the demand for dried vegetables in this country has not been sufficiently steady at a remunerative price to enable this industry to be conducted on commercial lines, except perhaps in one or two specialised instances; but the British Fruit Evaporator Company are so confident that there will be a ready market for dried produce that they are prepared to make arrangements with their clients to take all the dried produce from them at the current market rates.

With regard to the drying of Apples and Plums, Professor Dunstan of Wye College, who has made a special study of fruit and vegetable drying, expresses the opinion that it has not yet been found possible to compete with American Apple rings or Continental Prunes. In the manufacture of Apple rings for sale a white appearance is essential, and to obtain this the fruit must be sulphured; while in the case of Prunes a careful study of the subject has led Professor Dunstan to state that our English varieties are not suitable, as a Plum rich in sugar and of a less watery consistency than English Plums is required to make an article which is saleable. Be this as it may, we have lately heard a farmer say that in pre-war days the famous Carlsbad Plums were grown in Buckinghamshire and sent to Carlsbad for the purpose of being specially dried. Whether English Plums will or will not make satisfactory Prunes we do not know, but of this there can be no doubt—that dried English Plums make splendid jam. Therefore, in the event of sugar not being procurable

at the time when the fruit is ripe, the Plums should either be preserved as pulp or dried, and of the two methods the latter seems preferable.

One great advantage of drying over bottling is that the produce takes far less space for storage, and it is, of course, so very much lighter for transport. Speaking generally, about four-fifths of the weight of green or fresh vegetables consists of water. Proper drying removes the water only, and the residue one-fifth is food material; therefore 1lb. of dried vegetable makes about 5lb. when boiled in water. The proportion of water varies considerably in different crops, but the point of



A WATER-WORN STONE MAKES A SUITABLE LABEL AT THE FOOT OF A FRUIT TREE.

importance is that drying is merely concentration, and in this form the food is so much more easily handled. The small quantity of 4½lb. of dried Pershore Plums made, with the addition of sugar, 49lb. of excellent jam. With Apples, 4½ tons of fresh fruit when dry would weigh about 1 ton; while it would take approximately 10 tons of Cabbage to make 1 ton of dried Cabbage. The great reduction of weight in transport is apparent.

Unfortunately, there are very few drying experts in this country. A school for the instruction of men and women in the art of drying is, we understand, to be opened shortly, and there is great need for such instruction without further delay. But, as I have already pointed out, it is very doubtful if it would pay to set up drying plant to deal with garden surplus if such plant is to lie idle in years when there is no glut. What, then, is to happen to the surplus vegetables of private gardens? Clearly this is a case for organisation, in which a central depôt should be established—a sort of Covent Garden—to which fruit and vegetables should be sent for drying from all parts of the country. There is a great and urgent need, and it is the clear duty of the Food Production Department of the Board of Agriculture to see that it is done. Now is the time to act. The waste of produce even in small gardens may be enormous before the winter arrives. The Food Department should realise that it is their duty to see that centres are established for the drying of all surplus fruits and vegetables of gardens, both large and small. H. C.

GARDEN LABELS

LABELS are ugly things and should never be seen in ornamental ground, but they are necessary in the kitchen garden and reserve ground, and even there it is well that they should be as little unsightly as may be. The illustrations show three kinds of labels, two of them of purely local material. There is a kind of blackish stone that occurs over a few square miles of our district in South-west Surrey. It contains a large proportion of iron, and was, in fact, used as iron ore by the Romans at a place four miles from here; a chain of ponds where the fall of the water provided the power for their works are still called the Hammer Ponds. There the ironstone is in small, rough pieces, but just here it is in larger lumps, water-worn to an almost smooth surface. Such stones, with the name painted in plain white letters, do well as labels placed on the ground at the foot of Apple trees. Other labels we make from the staves of paraffin barrels when, cut in half, they have served for other uses and, finally, from the rusting of the hoops, have fallen to pieces. They are of sound Oak and, being soaked with paraffin, are long lasting. One end is pointed and the other painted with dark lead colour that has a dash of green in it, and the name is written in white paint. These

USEFUL GARDEN LABELS.

we use for Michaelmas Daisies. They would be too conspicuous for the ordinary flower border, but are soon hidden by the quick growth of the Asters, and yet can be found when wanted. A smaller label we make of Hazel rods about an inch thick, cutting them anything from 10 inches to 12 inches long. One end is pointed and the other shaved to about a third of the thickness with a draw knife, leaving a smooth surface for a smear of white paint, which is then written on with a soft black pencil. G. J.

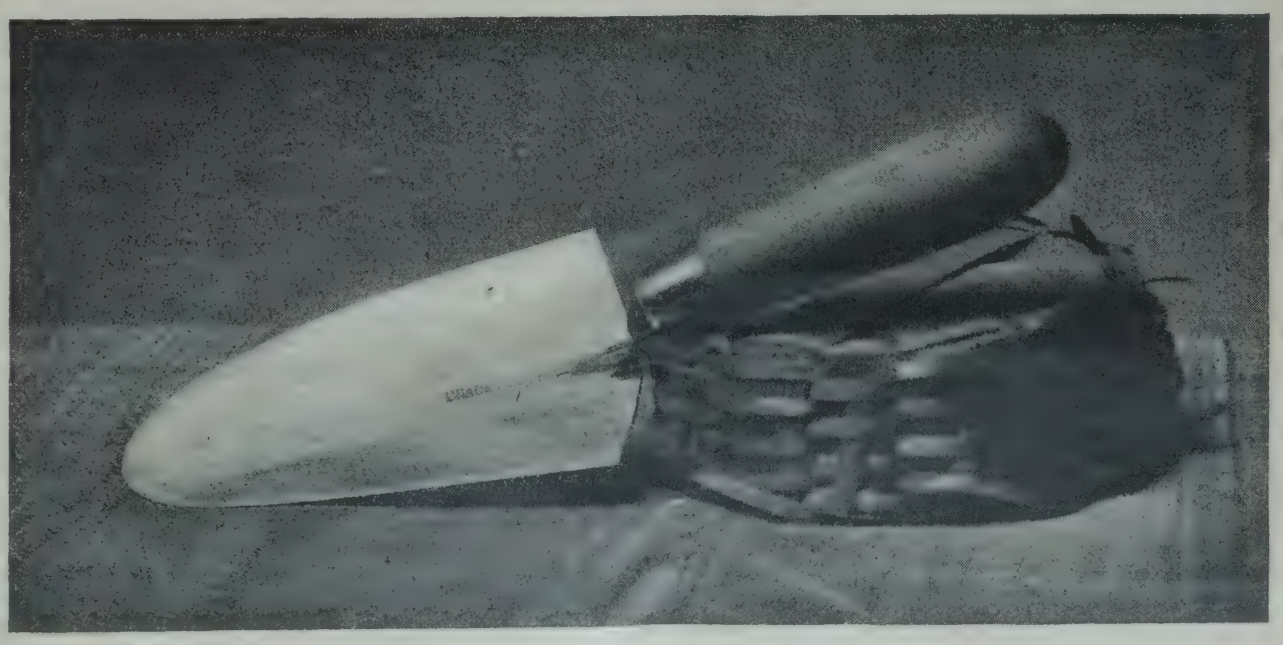
A Well-shaped Garden Trowel

SOME years ago, having felt the want of a better-shaped trowel, a consultation with a friendly firm of ironmongers and one or two trial resulted in a tool so handy and pleasant to use that one cannot wish for a better. The blade is flatter than usual, and the handle, instead of being turned into various useless forms, is quite plain and smooth, like that of a bricklayer's tool. This plain handle is a great comfort, enabling the trowel to be turned or twisted in the hand as may be required. Unfortunately, just at present the existing stocks have been sold out and Government restrictions on the use of steel stand in the way of renewal, but it will be made again after the war. Gardeners who have had it in use do not willingly have any other kind. G. J.

A Hertfordshire Hardy Fernery

SPACIOUS hardy ferneries are, in my experience the exception rather than the rule, even in acknowledged good gardens. But I came across one the other day at Danesbury Park, Welwyn, the residence of A. W. Merry, Esq., which is well worth recording. The ground it occupies must be approaching half an acre in extent, while the idea to so utilise such a position shows considerable forethought and skill on someone's part in past years. Its actual site is in the park, a matter of two or three minutes' walk from the residence, and it was probably the scene of an old quarry. There are a few very large stone boulders to be seen, but whether found naturally or specially taken there I would not hazard. If the latter was the case, all traces of artificiality have gone, for the materials are weather-beaten and overgrown with moss. Planting has been done in bold patches or colonies, and there is considerable variety. Besides planting on the varying ground-levels, old tree stumps have been hollowed for planting in too, thus giving a further touch of naturalness to the scheme. One omission, however, was very noticeable in such a fernery: I could not find a trace of the Royal Fern, Osmunda regalis. Its absence was the more remarkable because appropriate positions abounded and water had been laid on, thus precluding the question of a sufficiency of moisture so essential to the well-being of this particular Fern.

The entire enclosure is fenced with iron railing and some groupings of trees, which, when viewed from a distance, suggests no thought of a fernery being so pleasantly sheltered within. C. T. H.



THE "PERFECT" GARDEN TROWEL.

Plants on a Small Moraine Garden.—III

BY T. ASHTON LOFTHOUSE.

Delphinium nudicaule.—Although not necessarily a moraine plant, it is very effective with its red flowers, and provides a useful break from the dwarfer plants which necessarily predominate.

Dianthi.—Dianthus alpinus does beautifully, especially in the more limy portion. Several of my plants were raised from seed, and the flowers vary somewhat, both in size, colour and zone marking; it is usual to mulch them after flowering, and again in the winter or spring. Plants not in moraine are apt to go off through being attacked at the root, and also from the persistent attacks of the slug family. I sometimes notice pieces nipped off and lying about the plants; this may possibly be due to the attentions of either field mice or birds. D. Freynii, the plant I have representing this species, and which was supplied to me by a well-known firm, has what I take to be the characteristics of this species, being dwarf, compact, and having flowers about half an inch in diameter on very short stems; but the flowers are white with a thin pink zone, and somewhat disappointing. D. neglectus, the prettiest of the Dianthus family, while, as a rule, satisfactory under ordinary conditions if precautions are taken to prevent it being overgrown, revels under moraine conditions. A plant that I have in this is covered with its lovely flowers every season, and last summer had over 150 flowers at its first flowering. If the dead flowers are picked off at the time and the plant is mulched, it continues to flower until well into the autumn. D. sylvestris has flowers somewhat like the last, but on much longer stems—in fact, too long for a small moraine, the specimen I had having flowering stems well over 12 inches in length, and requiring staking to keep it off adjacent plants.

Other Dianthi that I have are D. petræus alba, D. Lereschii (a dainty white-flowering form on stiff 3-inch stems), D. kamtchaticus, D. graniticus, D. cæsius albus, D. Falconeri (too tall for this purpose), as is also D. atrorubens, which has been removed. D. cæsius Bickhami.—Moraine conditions proved too much to the liking of this good form; the flower-stalks, instead of being 3 inches to 4 inches, were 6 inches or 7 inches. Species recently added, but which have not flowered yet, are D. Simsii, D. creticus and D. dentosus.

Leontopodium alpinum.—One or two plants of this placed in the driest part failed to maintain themselves, being one of the only failures, but as it flourishes in other parts of the garden I did not trouble any further with it.

Linaria alpina revels in the moraine, rooting and seeding itself in every direction, its pretty blue and orange flowers prevailing more or less the whole of the summer and well into the autumn. The prettier rose-coloured form seems to be more delicate and does not grow or seed about nearly so freely as the blue form.

Mertensia primuloides.—An exceedingly pretty flower, but the plant does not seem quite happy; it would probably do better in a peat moraine, in which I am now trying it. It grows about 6 inches high, with purplish, white-edged flowers in clusters. (See illustration.)

Morisia hypogœa.—Only introduced in 1915, when it flowered quite well; it survived the winter but did not increase perceptibly, and failed to flower last year.

Myosotis rupicola.—This has proved a disappointment, as so often happens with the smaller Forget-me-nots. I raised plants from seed, some of which flowered the following season, but they all gradually died off, receiving considerable assistance from the attentions paid to them by the slug family. It is possible that this requires treating more or less as a biennial, and in a suitable position would probably seed and maintain itself.

MERTENSIA PRIMULOIDES.

A beautiful little plant for the moraine. (*About natural size.*)

Papaver alpinum.—These beautiful dwarf Poppies are quite at their best on the moraine, flowering freely in white, yellow and orange (yellow being dominant) all the summer, the period being considerably extended if the flowers are not allowed to seed. It is just as well to prevent them from seeding for another purpose, and that is that they seed and come up so freely under these conditions that they would soon take absolute possession.

Petrocallis pyrenaica.—A very suitable plant and quite at home, being covered with its pretty pink flowers in the spring, but it is a plant that is better for a little protection in the winter, at least in a district such as this.

(*To be continued.*)

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—When lifting the early varieties, any seed required for next season's planting should be carefully selected, dried, and stored at once. Misshapen tubers should be rejected. Those weighing from 1½oz. to 2oz. are the most suitable. Large tubers if not cut are wasteful. Cutting sometimes results in loss from slug and wireworm attacks, which means gaps in the rows.

Peas.—All rows, especially of late sorts, should, directly they are earthed up, be heavily mulched to conserve the moisture in the soil. Lack of this is a sure forerunner of mildew, which is the worst evil late Peas have to contend with. If the weather is continuously dry, copious supplies of water should be given to all Peas in any stage of growth.

Scarlet Runners are revelling in the hot sun. They are fast creeping up the supports, making luxuriant foliage. Avoid overcrowding by thinning the laterals. If extra large pods are required, thin the clusters of fruit. Mulch the space between the rows with long strawy manure and syringe the plants in the evening after a hot day.

Vegetable Marrows.—Keep the plants well supplied with water, especially those on narrow hillocks, to ensure a free "set" of fruits. Where the plants are on manure-heaps and growing extra strongly, the weakly growths should be cut out to avoid overcrowding, which, with the excessive manure in which the roots ramble, often results in abortive blossoms. Such plants do not require so much water. It is better to allow them to become dry, thus checking exuberant growth.

Rhubarb.—Now is the time to ensure good crowns for next season's forcing. Promptly remove any flower-stems that throw up, as the formation of seed-pods tends to weaken the maturing of the crowns. Keep the plants free from weeds or anything that may shade them from direct sun.

Brussels Sprouts where put out early are growing apace, and promise to reach 4 feet high for the tall-growing sorts, which is deemed satisfactory. Keep the plants free from weeds, and the soil stirred between the rows even if there are no weeds. The latest batch for outside-sown plants should be put out at once on any spare plot. They may give some useful sprouts in the spring.

French Beans.—Well water the late-sown rows in the open and sow seed in a skeleton frame for use in the autumn, should an early frost cut off the runners. As the cold nights come on, the lights should be put on to protect the plants from a check to growth.

Cabbage.—Sow a pinch of seed of Harbinger on moist soil to ensure speedy germination for an early plot.

Lettuce should be sown frequently in well-watered drills to ensure a succession of crisp heads. Always thin the plants early. Those left in the rows will mature quickly and cause less trouble than those transplanted.

Fruit Under Glass.

Melons now showing colour should have less water at the roots, but not be dried off entirely. Abundance of air ought to be given the plants, which improves the colour and flavour of the fruits. Successional plants in houses or frames should have the growth regulated, avoiding overcrowding. Pinch the shoots a joint or two beyond the fruits, and carefully fertilise the blossoms to ensure an even and quick "set" of four fruits on each cordon-trained plant in the Melon-house. In the frames smaller-fruited varieties are generally grown. These may carry half a dozen full-sized fruits on each plant. Weakly growing plants should be stimulated with liquid manure.

Grapes.—Where Vines are growing in the Peach-house, greenhouse or conservatory, although requiring air freely after the berries are thinned, care should be taken that they are not exposed to direct draught, which is the most fertile cause of mildew. Avoid overcrowding the shoots, but thin and stop lateral growth promptly, going over the Vines for this purpose certainly once a week. Well water the inside borders where the Vines are swelling their berries, and mulch with half-decayed horse or cow manure. Inside borders require much water, especially where the Vines are growing wholly in them and the drainage is good.

Strawberry layers for forcing plants should be secured in 3-inch pots without delay, and ought to be regularly watered to ensure quick rooting. It is an advantage to get the plants early into their fruiting pots, so that they may be well supplied with roots before the autumn.

The Flower Garden.

Roses.—Directly the Ramblers have gone out of flower is the time to commence the pruning of this section. Take a full-sized plant of any variety that has bloomed fully and made vigorous sucker-like shoots from the base. From these latter the next season's flower crop will be obtained. The point to bear in mind is to preserve these growths intact and mature them thoroughly, so that they pass through the following winter without harm and are in a thoroughly matured condition to give a maximum of bloom. Cut clean away all growths that flowered this season, loosely securing to the supports the new shoots. Dwarf plants of Hybrid Tea and other sections have given their first crop of flowers in quite a satisfactory manner. Go over the plants and shorten back the shoots from which the blooms were simply picked off after flowering. This cutting back of some inches of the shoot will induce more vigour in the basal eyes, which will give stout growths and another full flower crop. Such plants would be all the better for a mulch of horse-manure or a sprinkling of superphosphate over the surface soil, 6lb. to the rod, or 3lb. of sulphate of ammonia, well watering the plants afterwards.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Weeds.—These, after a rest, will now be germinating, and if the hoe meanwhile has been laid aside it should be again brought out and every bare space scuffled neatly. This can now be quickly done and will save much labour later, and probably also a standing eyesore, should time not be found to clean the ground.

Routine Work.—It is, sad to say, not uncommon to see the whole of the Pea sticks, the dead Pea haulm, and the remains of seed-beds of spring-sown stuff standing up till now and even over the autumn, as well as Potato shaws, cut-over Cauliflowers, &c. It is difficult to assure people who are so unthrifty of time that less labour is involved in clearing off crops as they pass over and recropping the ground at once than in allowing things to stand over. Successful garden management consists largely in keeping everything in hand so that no arrears are ever left to be undertaken when other work ought to be done.

Winter Tomatoes.—Delay no longer sowing seeds of an early variety, raising the seedlings in a warm structure, but being careful to keep them there only a short time subsequent to germinating. A cold frame kept close will suit them very well, coolness at night and heat in the daytime just suiting these. It is important, too, to repot at frequent intervals up to 10-inch pots, which are large enough to enable the plants to carry a good crop.

Parsley.—It is usual to sow for winter and spring use about this date and in a warm position. Sometimes the position is chosen so that a frame can be placed over the plants during severe weather. If, however, the spring-sown plants are properly treated and given plenty of space, it is seldom, if ever, that another sowing need be made. There is no question as to the improved quality of the latter and the minimised labour involved in its production.

The Hardy Fruit Garden.

Peaches.—The shoots for another year should be selected, superfluous ones, though ever so few, being removed, and those left secured to the walls. A simple method consists in securing these by means of small shoots of Willow or Snowberry, each end being kept in place under the shoots on either side of that to be fastened. Terminal shoots have to be nailed to the wall, keeping them quite straight. Princess Beatrice ripens on a south wall about this date, sometimes a little later. It is a small fruit and worth growing because it is so early. Those who have little knowledge of this should not let the fruits ripen on the trees. They are best picked when they come off after a gentle pressure—not enough to damage the fruits—and laid for a day or two to mature in a cool room. In this they may be kept for a considerable time if not wanted at once.

Plums.—Young trees make very long growths during summer, and those chosen to form a foundation for the future tree should be examined occasionally, fastened securely to the wall, and laid in perfectly straight. Fruit on Rivers' Early Prolific is ripening, and as Plums are a very short crop, it may be bottled if wanted for dessert, when well ripened not being a despicable variety by any means. Then the tree should be securely netted, and traps set for mice, these being partial to the fruit. Very old trees requiring new wood to rejuvenate them may have a select number of young shoots laid above the bare portions and tied in so that they may fill the spaces these occupy when cut out next winter or spring. Some old trees with hollow branches bear very well when treated in the above way. Be careful, however, to distinguish between gross, watery shoots and those of medium strength, which are the better.

The Flower Garden.

General Work.—We have reverted to Geraniums to some extent this year, having eight beds furnished with these. The final hoeing for the year should be given, and after this the beds ought to assume a very gay appearance. Violas which have been flowering for some time require examining and all seed-pods and decaying flowers picked off, otherwise the plants are apt to stop producing flowers. Lobelias should be spread flat and a little soil placed in the centre of each. This is a source of vigour and a means of inducing continuous flowering. The lovely Godetia Schaminii fl.-pl., which I like rather better than later colour forms, is apt to grow rather lanky and also to stop flowering owing to seed production. By switching off the tops two or three times in the course of the season with a reaping hook this is obviated, the plants are kept dwarf, and an altogether improved effect is produced.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

CAULIFLOWERS FOR SMALL GARDENS

THE fact that many of the more popular varieties of Cauliflower need a space approaching a full square yard if the large leaves are to have the necessary room for development—and, unless this is provided, heads of full size need not be expected—forbids the owner of a small garden growing more than a very limited number, yet where these are in great demand it must be admitted that if care is exercised in the selection of the variety, also the date of sowing, few vegetables are more profitable than these to the grower, and a long succession of heads is possible, covering the period from early June until quite the end of the autumn, without resorting to the extra strong growing varieties requiring the above-mentioned space, and which in some seasons produce heads of such gigantic size as to make them almost useless where the family is small, or for others who prefer the heads cooked whole.

THE HARDY CAULIFLOWER STANDWELL.

For several seasons I have relied entirely upon the dwarf-growing varieties, and find that, even where the heavy dressing of manure usually thought to be absolutely indispensable for these is omitted, we get heads of most useful size from plants occupying less than half the space allowed for those of the "giant" type.

Seed to supply the first heads being sown in an ordinary greenhouse about the middle of February, the plants from this sowing usually occupy a warm position out of doors during the latter part of April, and we are never without

good heads from this sowing for a month, commencing about the middle of June. An outdoor sowing of the same variety follows about the end of March, the plants from this sowing keeping up the supply until the end of August. Two later sowings are made between this and the end of June, and last December we cut fine heads from this last sowing up till Christmas, the plants occupying a very sheltered spot.

Quite the best of these dwarf varieties is found in Dickson and Robinson's Standwell, the moderate-sized heads of this never disgracing the name they bear. Sutton's Magnum Bonum, Early Bird, Dwarf Erfurt and Early Snowball are very good, although the last-named often gives many "blind" plants; while a later introduction by Carter Page named Matchless gives good heads eleven or twelve weeks after sowing. On any moderately good soil excellent results will follow f either of the above is planted 18 inches by 15 inches in the row. F. R. C.

A COLUMN FOR THE CURIOUS

"THAT HEDGE, AND HEDGES."—In THE GARDEN of June 23 "Anne Amateur," writing apparently from an expansive country place where Nature should teach her the truth, expresses doubt as to the spiritual mission of a hedge in the artificial landscape. Averse to anything unpractical or indefinite, I am replying to our esteemed "Anne Amateur's" request for a statement as to the spiritual impression of the hedge. There is no human art which can create; it but follows design in Nature. The hedge is essentially architectural, and in practice marks the transition from Nature in less or more primitive form. Classic and Eastern architecture, which is the most ancient, was evolved upon lines suggested by the trees most familiar in those regions. This origin is not given the place it should have in our text-books. Similarly, Western and Northern architecture was evolved from the trees most familiar, especially coniferæ. The aspiration of the spire and its innumerable adaptations is but the spiral growth of many coniferæ reproduced, as the dome in the East came from the Palm and many similar trees with spreading rather than aspiring stems. The most distinctive feature of English nineteenth century horticulture was coniferæ coming into its own in our gardens and pleasure grounds. THE GARDEN owed much of its original success to protest against the garden forming a mere exposition of colour. In this THE GARDEN directly, and yet more indirectly, assisted coniferæ to its true place in garden economy. Given coniferæ thus, our horticulture was free from the soulless lines of Thorn, Beech, Privet and so on, which in pre-conifer days were said to be hedges. We must evolve from the conifer the hedge with a true spiritual impression, just as the architect originally evolved the heavenward pointing spire. There is no practical difficulty in this save obtuseness as to natural principle. "Anne Amateur's" hedge of sorts may go a certain way in the direction of an inspiring impression, but it is based upon no definite principle whatever. In Cupressus macrocarpa and Lawsoniana, Juniperus chinensis, many Thuyas and numerous others we have ample adaptable material for hedges, either alone or in a modification of "Anne Amateur's" sorts.—HURSTCOT.

TRENCHER POEMS OR BEECHEN ROUNDELS.—I was very much interested in "B.'s" account of the trencher poems in THE GARDEN, issue May 26, page 192, as we have seven of the poesie trenchers here. They are in fairly good condition, and are supposed to be of the time of Queen Elizabeth. I should be most grateful to "B." if he or she could tell me which volume of the *Gentleman's Magazine* the account comes from, so that I may look it up. I was once told that at Goodrich Court there was a set of the time of Henry VIII., bearing his device of the Rose and Pomegranate. One would like to know where more of these interesting treasures have been preserved.—(Mrs.) TREVOR CORBETT, *Longnor Hall, Shrewsbury.* [These notes run through many years of the *Gentleman's Magazine*, but they are conveniently summarised in the *Gentleman's Magazine* Library, "Manners and Customs," G. L. Gomme, pp. 259–280. This volume has lately been remaindered and can be purchased for 3s. or so. The particular couplets quoted are in Part I., 1794, pp. 407–409, of original series.—ED.]

POESIES ON FRUIT TRENCHERS OR ROUNDELS AT LONGNOR HALL.

Thy fortune is full longe to lyue, For nature dothe longe lyffe thegugue,
But once a weeke thou may be sicke, And have a sullen ague yitt.

Thou gapest after deade mens shoes, But barefoote thou are lyke to go.
Content thyselfe and doe nott ye muse, for fortune saith itt must be so.

Whatt neddes suche cares opresse thy thoughts, for fortune saithe thy hope is naught.
Asbrodse thy chaunce is for to kepe, Butt better a shrodse faire then a sheepe.

A quiet lyfe surmounteth golde, Though goode great store thy coffers holde.
Yett rather deathe I do besetche, Then moste maister to weare noo bretche.

Thou hopest for marriage more than mee, Leave of thy hope ytt wil nott be.
Thy mocke will breede thy hearte suche care, That deathe will come or thou beweare.

Harde is ye hope yff you doste nott thrive, Thy is to have wyves fyve,
And everye one better then thee other, God sende ye good lucke, I wishe noo other.

Iff yt Dianas birde thou be, And stile haste kepte thye chastetie,
Seke nott to thrale thy virgins lyfe, Inn miariage withe a cruell wyfe.

The Royal Horticultural Society

A FULL and interesting exhibition characterised the fortnightly meeting held at the Drill Hall, Buckingham Gate, S.W., on July 3. Hardy flowers were in great variety and beauty, none more imposing, however, than the rich displays of Delphiniums, Lilies and new Eremuri, of each of which there was quite a feast. Roses, too, were shown galore, and while in much variety, also included several important novelties, some of which are richly endowed with fragrance. There were also some good groups of Sweet Peas, and these, together with Carnations, new hybrid Poppies, Gloxinias and Orchids, made up a most delightful whole. Following are some particulars of the more important exhibits.

HARDY FLOWERS.

These were admirably shown by Mr. J. C. Allgrove, Slough, the group, however, containing nothing of greater garden merit than the rich array of Lychnis fulgens. Brilliant scarlet in the typical kind, they were here in crimson, rose, pink, flesh and other shades that rendered them welcome and attractive. Trollius Ledebouri, of rich orange colour, appeared to attract largely; while among choice alpines nothing was more delightful than the pink-flowered Acantholimon venustum, of which some two dozen or more were most charming. A background of Spiræa ariæfolia with Eremuri and Philadelphus Fantaisie were other notable things in an excellent lot. Quite near Messrs. R. W. Wallace and Co., Colchester, had set up a great gathering of hybrid Eremuri, largely of the E. Bungei set, though including others. E. Bungei superbus (lemon colour), E. B. pallidus, Shelford, Shelford No. 1 and Sir Michael—the last three endowed with shades of copper or pale tawny orange—are some that most appealed, though we cannot omit the lovely new Olgæ Pink, which is doubtless one of the most beautiful of all. "Fox-tail Lilies" seems a not inappropriate name for these, and should do far more to popularise a great race than any Latin name could possibly do. Iris aurea and I. Shelford Giant were suggestively grouped near the water, the pool itself richly ornamented with the choicer Water Lilies. Of more than ordinary interest, too, was the lovely if small group of Lilies from the Alder River Nurseries, Iver, Bucks, the most prominent being a delightful dozen, 3 feet to 4 feet high, of the graceful Lilium Willmottiæ, the plants flowering with great freedom. Already it has the reputation of being a good garden Lily, and certainly it is one of the more attractive. The very rare Manchurian L. cernuum was also noted—it is virtually a rose-coloured tenuifolium, dwarf in habit and among the most dainty of its tribe. L. Golden Gleam and a sport or seedling variation with lustrous, waxy, scarlet flowers, as also a highly promising hybrid (pardalinum × Parryi), were others well removed from the commonplace, while practically unique in the genus they adorn. From Bath, Messrs. Blackmore and Langdon brought a sumptuous lot of Larkspurs (Delphiniums), not an overwhelming array, not everything they had in flower, probably, but a delightful gathering of the best, which should be good enough for all. Elsie (sky blue), Glory (pale mauve), Mrs. A. J. Watson (deep mauve, semi-double), Harry Smetham (intense gentian blue) and Lizzie Van Veen (bright blue with white eye) were some of outstanding merit, the giant, well-furnished spires of flowers being most imposing. Very fine Larkspurs came, too, from Messrs. Cannell and Sons, some of the best being Ustane, Rolland, Dick Sands and Eynsford Beauty; while in a great gathering of these from Messrs. Bakers, Professor Coleman (brilliant deep blue) and Lizzie Van Veen were among the more important. Messrs. Bunyard and Co. also had an extensive display of these best of July flowers, Lady Conway (azure blue), Queen Wilhelmina (soft blue), The Alake, and the rich blue Harry Smetham being noted. Of quite a different order were the hybrid double and semi-double Poppies, obviously descendants of the "Shirley" race, staged by Messrs. G. Stark and Sons, Norfolk. Hardy, in shades of orange, scarlet, flesh, blush, salmon, rose and the like, they are among the most attractive of easily grown annuals and specially well suited to autumn sowing. The most telling things from Mr. Reuthe were the new forms of Erica cinerea pygmæa, rosea, and alba minor being noted.

ROSES.

These were particularly good from various sources, though we regret the exigencies of space will not permit of our dealing with them in detail. Pax in Mr. Pemberton's group is a white perpetual-flowering Hybrid Musk; Lady Curzon, a single pink Damask, which forms a great shrub and merits to be so grown. The new crimson Walter C. Clark and the handsome single Mermaid each gained an award (see "New and Rare Plants"), and stood out from the rest in a select lot from Messrs. Paul and Son. Waltham Scarlet, too, was very brilliant. Another Rose novelty was the orange sport from Mme. Edouard Herriot. It was staged in quantity by Mr. T. Robinson, Nottingham. Mr. Elisha J. Hicks of Twyford invariably stages good Roses, and among his best were Red Letter Day, a most brilliant thing; the new Climbing Hillingdon, of richer orange than the original and of free climbing habit; Iona Herdman, a glorious deep yellow; and Florence Forrester, a magnificent white. The gold medal Rose Charles E. Shea and that most fragrant of Roses, Mrs. G. Norwood, were well to the fore. The more telling sorts in a bright lot from Messrs. B. R. Cant and Sons were H. V. Machin, scarlet; Cupid, a fascinating pink single; Red Letter Day; and the yellow Climbing Wichuraiana Emily Gray; and in that from Messrs. Frank Cant and Co., Lady Mary Ward, Lyon, Red Letter Day and Lady Pirrie.

STOVE AND GREENHOUSE.

An interesting novelty in this department was Richardia Elliotiopica (R. Elliottiana × R. æthiopica), the soft primrose yellow spathes marked at the base with light purple. The plant is dwarf, the foliage that of the last-named parent. Acalypha Sanderiana, Medinella magnifica and Dracæna Victoria were all shown in well-grown examples by Mr. L. R. Russell. Messrs. R. and G. Cuthbert showed a few big Gloxinias, of which Cuthbert's Distinction was the largest. We do not, however, think that mere size is adding to the beauty of these popular greenhouse flowers. In a group of Ferns from Messrs. H. B. May and Sons the red-tinted Adiantum Veitchii was very pretty, Nephrolepis Marshallii compacta being also well presented.

SWEET PEAS.

These were not seen on the extensive scale anticipated, and but few groups were staged. Some of the finer were in Mr. J. Stevenson's group, King Mauve, Peace (pink), Faith (pale blue) and Austin Frederick (lilac and lavender) being noted. Margaret Fife (mauve), Mrs. Gentle (pink and white), Admiral Beatty (fine red) and Minnie Piper (pale salmon) from Messrs. Piper were distinct and good, as was also Elegance (a blush pink of large size) from Messrs. Alex. Dickson and Sons, Belfast. The finest exhibit of these flowers was that from Mr. W. H. Holloway, Shrewsbury, which was awarded a gold medal by the committee of the National Sweet Pea Society. The best vases were those of Royal Purple, Hope, Constance Hinton (fine white), Charles Foster (pink), Jean Ireland (cream and pink, a variety for everybody) and Golden Glory, which, curiously, is coloured orange scarlet.

ORCHIDS.

Of these Messrs. Armstrong and Brown, Tunbridge Wells, showed many good things, none better, however, than Miltonia J. Gurney Fowler, whose soft pink flowers have a wondrous moth-shaped mask of velvety maroon at the centre. It is one of the most striking ever raised. M. Bleuana and others, with Cattleya Gaskelliana alba and a lovely series of Odontiodas, were among other things. In Messrs. Charlesworth's group Cattleya gigas Mrs. E. Ashworth (of pretty blush shade), Miltonia Charlesworthii (pink and dark crimson) and M. Bleuana (with eleven spikes) were among the more important items.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Rose Walter C. Clark (H.T.).—This not very large variety is coloured rich crimson with maroon centre, and for colour and easy opening would attract in almost any stand. Its greatest attribute, however, is its rich and powerful perfume, in which respect it excels.

Rose Mermaid.—A single-flowered Wichuraiana hybrid of the largest size. It is coloured a rich deep cream, the cluster of rich golden anthers throwing the body colour of the flower into bolder relief. These two were from Messrs. Paul and Sons, Waltham Cross.

Rose Miss May Marriott.—An orange-coloured sport from Mme. Edouard Herriot, which needs no further description. From Mr. Thomas Robinson, Nottingham.

Odontoglossum Queen Alexandra Memoria Lionel Crawshay.—A beautiful and distinct hybrid having dark orange coloured sepals bordered with gold and chequered with creamy yellow. The lip is violet and chocolate, with big white tip. From de B. Crawshay, Esq., Sevenoaks (gardener, Mr. W. J. Stables).

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

ZINNIA LEAVES EATEN (*Mauve Poppy*).—The piece of plant sent is too much dried up to enable us to make even a guess at the cause of the trouble of which you complain; but we suspect caterpillars, which hide in the earth during the day and feed at night, are the culprits. They should be sought for, but are not easy to discover, as they are the colour of the earth and lie rolled up in it.

INSECTS ATTACKING HARDY PRIMULAS (*M. E. W.*).—The insects sent are allied to the cuckoo-spit insect and others which damage plants by sucking the sap; but, being immature (and when they reached us dead), they are not in a state to be named with accuracy. In any case, they will be difficult to combat, since spraying is out of the question and poisoning the food impossible. Sprinkle a little sawdust or sand damped with paraffin around the plants at the time experience has shown you the attack is likely to commence.

PROPAGATING VARIOUS PLANTS (*Mrs. H. P. E.*).—The different subjects named by you can all be propagated by cuttings formed by the half-ripened shoots of the current season's growth. These cuttings should be taken off at a length of from 4 inches to 5 inches, the bottom cut off immediately below a joint, and the lower leaves removed for the purpose of insertion, the latter part of July being the most suitable time for the purpose. When made the cuttings must be dibbled firmly into pots of sandy soil, given a thorough watering through a fine rose, and stood in a frame which is kept close and shaded till they are rooted. The lights should be taken off each morning to ascertain the condition of the soil, whether water is required, and for the removal of any decaying leaves. If you have no frame accommodation, the cuttings may be put in a sheltered border out of doors. In that case they must be made of the harder wood, say, the shoots of the previous year, and to a length of 8inches to 9 inches, two-thirds of which must be buried in the soil. It is very essential that they are firmly fixed in the ground, and if the soil is of a stiff nature, some sand must be incorporated with it.

THE GREENHOUSE.

DISEASED LEAVES ON GREENHOUSE PLANTS (*E. C. O.*).—The leaves sent are badly infested with thrips and white flies. The name of Tomato flies is frequently applied to these last. They are one of the worst insect pests in the greenhouse once they have effected a lodgment on the plants therein, and difficult to get rid of. They and the thrips can be destroyed by the fumes of hydrocyanic acid, but this substance is too dangerous a poison to be recommended for general purposes. We have before now had a great deal of trouble to get rid of this fly, and had the most success when vaporising with the XL All Vaporiser. A single vaporising is of no use whatever, as the eggs are not affected by it, and in a few days they hatch out. For this reason the vaporising should be done at intervals of about three or four days until the plants are clear. One point to bear in mind is that at the first application of the nicotine vapour many of the insects drop to the ground and a fair proportion of them are not killed, so that they again quickly take their places on the plants. A good plan to check this is, if the vaporising is done in the evening, to water the paths and underneath the stages early the following morning with boiling water or paraffin emulsion. Again, the very badly infested leaves had better be picked off and burnt, as they will never resume their natural functions. Where a few plants are infested they may be dipped in a strong solution of soft soap, but this is impracticable where so many are attacked.

FRUIT GARDEN.

WALNUT TREE FIFTEEN YEARS OLD NOT BEARING FRUIT (*Sister Rebecca, S. S. B., St. Audrey*).—Walnut trees when raised from seed (the nut) remain barren a long time. The only way to hasten their fertility is by root-pruning in the autumn as soon as the leaves have fallen. The way to do this is to cut a trench round the tree 2½ feet deep and 1 foot wide at a distance of 4 feet from the stem of the tree Cut away *all* roots come in contact with with a sharp knife (not with the spade). Fill in the trench as soon as the pruning is finished, treading the soil well down. Root-pruning arrests vigorous shoot growths and compels the formation of fruit-spurs. Young trees which are grafted (not raised from seeds) bear fruit much earlier than trees raised from seed. In regard to the Mulberry tree casting its fruit before it is ripe, take away the turf nearly as far as the branches extend, keep the surface of the ground clear of weeds or grass, give the tree a top-dressing of well-decayed manure, and water heavily three or four times during winter. Possibly the lower roots are dry.

KITCHEN GARDEN.

RAISING NEW VARIETIES OF POTATOES.—In one of my previous situations, at the time when Northern Star Potato was first sold at 5s. per lb., we propagated a lot of cuttings. The way we done this was to sprout them in the usual way, and then took off about 2 inches of each other shoot with a cut at a joint like a Coleus or Begonia, &c., and put them in sandy soil in small 60's in a propagating-frame in a warm greenhouse till rooted, and then potted into 48's, gradually hardened off, and planted out with balls of soil intact. It is now some years since, but if I remember rightly I believe the yield was something about a bushel of tubers from the 1lb. of seed. Perhaps if you could give in THE GARDEN the average amount of tubers to be expected from a peck of seed—1, early sorts; 2, late sorts—it would be a help to a lot of new allotment holders this year.—W. SMALLBONE. [Your experience in propagating the Northern Star Potato when the variety was scarce and dear is interesting, although the method you describe is not new. Perhaps next spring, before Potato planting-time, you will send us a note about it. Average weight of Potatoes which may be expected as a result of planting 1lb. of seed.—The answer to this question can only be approximate. On an average it takes about seven tubers of seed Potatoes to weigh 1lb. The return depends so much on the quality of the soil and its high culture or otherwise, making it difficult to give a reliable answer to such a question. The most that can be expected under ordinary cultivation is from eight to twelve usable Potatoes, with perhaps eight or nine small ones from one root from early ones, and more in proportion from later and heavier cropping varieties.—ED.]

MISCELLANEOUS.

REPOTTING SWEET BAYS (*W. G. S.*).—Sweet Bay trees may be repotted at the present time or at any time during the next two months. The best time is, however, April.

CABBAGE-ROOT MAGGOT (*Rev. E. R.*).—The Cabbages &c., are attacked by the Cabbage root maggot (Phorbia brassicæ), a very troublesome pest. Card discs may be cut or obtained ready for use from Messrs. Robinson, Dow Street, Manchester, to slip round the stems of the Cabbages at soil level. These will prevent the flies from laying their eggs near enough to the Cabbages to permit the larvæ to reach them, but they should be placed in position as soon as the Cabbages are set out in order to catch the first brood of flies. Another method is to sprinkle sand or sawdust, damped with paraffin, along the rows, as this will check the flies from approaching too closely, but the treatment requires renewal at intervals. Lastly, in any case it is well to draw earth up to the plants so as to induce them to root out above the place of attack and so to secure their future growth.

NAMES OF PLANTS.—*G. Y.*—Both of the Rubi are correctly named. In both species the flowers contain both male and female flowers (hermaphrodite). There is no reason why they should not bear fruit, except probably the absence of pollinating agency.——*F. L. H.*—Cratægus tanacetifolia.——*C. A. W.*—Periploca græca.——*W. F. D.*—Lysimachia vulgaris (yellow Loosestrife).——*G. W. B.*—Matthiola sinnata; this plant has no food value.——*H. M. T.*—Rose Lady Hillingdon.——*H. N.*—The Garland Rose.

Mr. H. B. May, V.M.H.—We hear that Mr. H. B. May, the chairman of the floral committee of the Royal Horticultural Society, has recently undergone a serious operation for the throat. His many friends will be relieved to know that he is progressing satisfactorily.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street Covent Garden, W.C.*

Proposed Federation of Allotment Holders

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The crisis through which the nation is passing in consequence of the war has awakened the public as never before to the vital necessity of putting forward every effort to promote home-grown food production. There is a deep and growing feeling that the movement for home-grown food production is not only worthy of every effort as a war-time expedient, but must be strengthened and developed as a permanent feature of our national life. In furtherance of these objects it is proposed to make an effort to bring together into a National Association of Allotment Holders all those who are engaged in this great and growing movement.

The necessity for removing the many disabilities (arising from their isolated position) experienced by allotment holders is clear; hence the need for an organisation able to bring about close and practical co-operation.

The advantages of such an association are many. Among them are:

1. A co-operative effort in the purchase of seeds, implements, manures and accessories needed by allotment holders.

2. To ensure that the allotment question secures that publicity and consideration from those in authority, landowners, and the public generally, which its importance demands.

3. To safeguard the interests of plot holders with regard to tenure, so that if and when it may be found that allotments occupied have to be given up, other suitable land shall be provided.

4. To co-operate in any movement towards such changes in our laws as will make it easy—instead of, as at present, difficult—for willing workers to grow their own food as near their homes as possible, at rents and under conditions which are reasonable and just.

5. To promote educational work of a practical character with a view to instructing adult workers and their children in the all-important work of food production.

This society, with its nine years' experience, is taking the initiative in this effort in order that something practical on the lines suggested may be secured; and we therefore invite allotment societies in your district to co-operate with us and take a hand in formulating a scheme based on democratic principles such as will commend itself to all, and enable those concerned to give voice to their ideals.

We invite communications from readers on the subject, and a form for affiliation will be gladly returned to them on application to JOHN GORMAN, Hon. Secretary, The Vacant Land Cultivation Society, 14, Buckingham Street, Strand, W.C.2.

OBITUARY

PHILIPPE DE VILMORIN.

THE many friends of M. Philippe de Vilmorin in this country will learn with deep regret of the death of the head of the well-known firm of Vilmorin-Andrieux and Co. of Paris. Having enlisted for the war, M. de Vilmorin was appointed Secretary to the French War Office Delegation in London, where he caught the complaint to which he fell a victim on June 30, at the age of forty-five, leaving a widow and six children. His premature death is a great loss to his family and to the world of horticulture. The funeral took place at Verrières le Buisson, the home of the Vilmorin family, on July 3. There was a large and sympathetic attendance, among which were the representatives of the President of the French Republic, of the Marine, Treasury and Agriculture Departments, and of the various scientific and trade societies of which M. Philippe de Vilmorin was a member.

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

Things in General

IN my notes of June 30 I pointed out how important it was to encourage all layers that are to be retained for the winter egg-season to moult early and normally.

Late Moult.—With hens to be disposed of, the opposite is desired. From a business point of view the hens should be encouraged to postpone their moult and meanwhile to continue in profit. As the time for the moult approaches, the birds should be kept on free range and be liberally fed. Their egg-yield should be carefully noted from day to day, and, if it decreases, a little more animal food should be added to the soft food.

Forcing for Eggs.—By increasing the amount of animal food and giving soft food exclusively—for breakfast and tea—eggs can be forced. This speeding up of egg-production will keep the birds from moulting, and they will thus return extra profit during the last "lap." Grit and shell must be provided *ad lib.* to ensure perfectly shelled eggs and thorough digestion. Poultry-keepers, I am afraid, do not pay sufficient attention to grit and shell. These materials should not be bought in small quantities, as under this arrangement stocks are always running short. Then, too, there is the question of cost. It is most advisable to buy grit and shell in bulk, since it is always there when wanted and there is a considerable saving in cost. This is a point poultry-keepers should carefully study. Many poultry-keepers put ground shell in the soft food—about a teaspoonful per head—which plan ensures every layer getting a supply of shell-forming material.

Reducing Stocks.—The Poultry Advisory Committee of the Board of Agriculture (recently inaugurated to watch over the interests of the Poultry Industry) passed the following resolution at its first meeting:

> "That all hatching should cease for 1917; that all old stock cocks should be killed at once; that with the exception of certain hens selected for breeding stock all hens hatched in 1915 or earlier that go broody and show signs of moult should be cleared, as well as any 1916 hens that indicate by their appearance that they will not be profitable; that as soon as possible all 1917-hatched cockerels not required for stock purposes in 1918 should be killed."

As students will have already observed, I am a great adherent to the slogan "Pullets for eggs and hens for chicks." The most prolific 1916-hatched hens will be required for breeding purposes next spring, and winter egg-production in the main should fall upon the well-matured 1917-hatched pullets. After an endeavour has been made to obtain by special handling and force-feeding (on lines before indicated) a last round of eggs from the 1915-hatched hens, they should be disposed of. There are exceptions, however, and I would not hesitate to retain for breeding purposes next season selected hens that would on past performances increase the prolificacy of my strain. Waste of good material is false economy in the long run!

The Males.—Surplus adult males should from the business point of view be disposed of, but any required for the maintenance of one's laying strain should be retained. The introduction of fresh-blooded males into one's particular flocks does not always lead to satisfactory results by way of progeny and their laying performances subsequently. While, then, surplus 1916 and 1917 males should be disposed of, poultry-keepers must have both eyes on the breeding operations of next season. The best mating to produce healthy, vigorous chickens in 1918 will be 1916-*hatched hens headed by a strong, well-matured 1917 cockerel.* The next choice falls on 1917-hatched pullets headed by a 1916-hatched male. Age should be on one side for best results in "fertility" and "rearability," and preferably on the female's. If we rely for winter eggs chiefly on the current year's pullets and carry on with an equal number of hens, our egg-baskets will be satisfactory.

The Dry Mash.—Where a complete change of feeding is adopted, the fowls will not often take readily to their diet. The owner must therefore trick the birds in some way or other. For a time the present method of feeding might be followed, a little dry mash being given as an "extra" each day. The dry mash can be gradually increased until the new method of feeding is carried out *in toto.* Another plan to adopt is to keep the new food before the fowls until their hunger drives them to it, but this method tends to upset the egg-laying of the birds. It is a case of perseverance. Many birds will refuse to touch certain grains, but by careful handling they are soon tempted to sample them, when they finally acquire a taste for those seeds or grains they formerly refused. Those who intend to feed their adult pullets on the dry mash system

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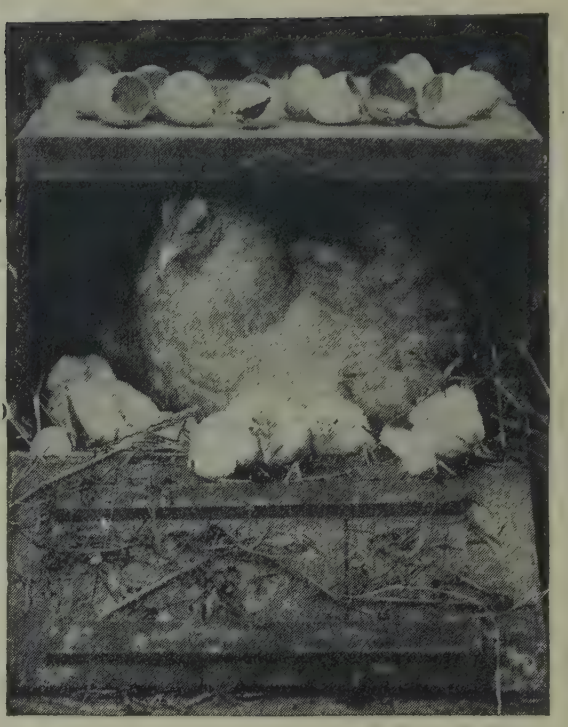

should get the birds accustomed to the same from the time that they approach maturity.

Scarcity of Eggs.—When last summer I predicted that eggs would in some instances realise sixpence each in the winter months, many perhaps smiled, but my prophecy turned out true. With so many poultry-keepers disposing of their stocks owing to the panic caused by recent food orders, the winter egg is still more uncertain in price. Writing from Chicago, an American poultry-friend tells me that England is planning for the purchase there of huge poultry and egg supplies. I understand that the British Government are in the market for 2,000 cars of eggs (or 24,000,000 dozen) and 800 cars of poultry (or 80,000,000lb. in weight). The cost of this American poultry produce must total nearly £3,000,000. I am not here concerned with the very important problem as to whether home poultry-producers could not the better supply this order and save tonnage. The news points to the fact that there will be a shortage of eggs in the near future. Poultry-keepers are well placed in that they have eggs at their door, and I strongly recommend all my students to put down as many eggs as possible from now onwards.

Preserve Eggs Now.—When winter comes along no household is complete, to my way of thinking, without its full supply of eggs down in preservative. Even if they are used for culinary purposes only they save the winter new-laids, and since hundreds of eggs can be preserved for the outlay of a few pence, the matter should be taken up by every housewife, whether she keeps poultry or not. A few eggs put down now will not be missed, whereas they will be very welcome when taken out of the preservative during the time when all the layers are moulting and therefore "out of profit," or later still if the pullets do not come into lay to time, as so often happens.

Food Restrictions.—Many poultry-keepers seem to be under the impression, erroneously, that they cannot use grain for poultry. No orders have been issued restricting the use of any cereals for poultry with the exception of wheat, rice and rye, and even of these *tail and damaged samples may be used.*

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C. 2.*

Pale-coloured Yolks.

MANY poultry students write me asking the reasons for pale-coloured yolks. Any shortage of green-food will result in the yolks being pale in colour, as will the adoption of "sameness" in feeding. There is nothing like variety of foods, provided one does not adopt too sudden changes. Maize and sunflower seeds—especially the latter—both darken and strengthen the yolks, as does sprouted rape. Layers benefit by having occasionally an iron tonic in their drinking water, and sulphate of iron can be recommended, since this darkens the yolks. By dissolving half an ounce of sulphate of iron in a quart of boiling water a good stock medicine is obtained. As a dose add a tablespoonful of the mixture to each quart of drinking water, using an earthenware or similar vessel.

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THE hen's reproductive system consists of ovary and oviduct. The former resembles a bunch of grapes, the unripe yolks (or ova) varying in size from very small specks to that of a large chestnut—according to stages of development. As each yolk ripens, it drops into the funnel-shaped entrance of the oviduct. The latter is a long, whitish-coloured tube, and its walls by the contraction of muscles carry the yolks down. Each yolk during its passage down the oviduct is fertilised and covered with several layers of albumen or white, the whole being shelled in the last chamber. Until laid, the shell is but a thin covering of lime, which hardens directly it is exposed to the air.

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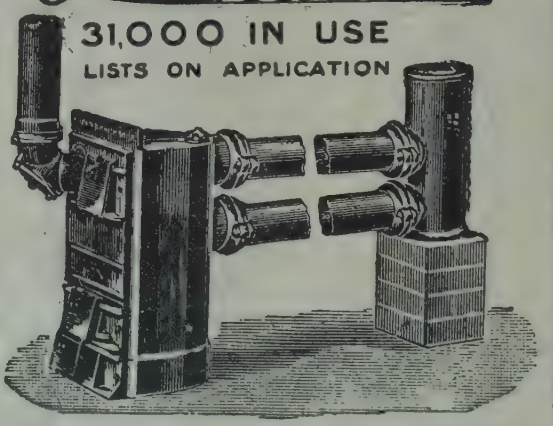

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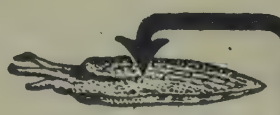

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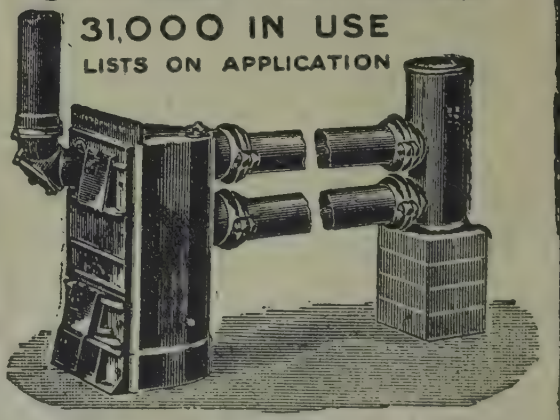

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THE GARDEN.

No. 2384.—Vol. LXXXI.] [July 28, 1917.

NOTES OF THE WEEK

When the Broad-leaved Batavian Endive is well grown and artificially blanched it is one of the best and most useful winter salads. It should be grown on good soil, allowing ample room for development. A couple or more sowings should be made during the end of this month and at the beginning of August, according to the demand. Sow in drills 2 inches deep on moderately firm soil, and transplant as soon as the young plants have attained a suitable size. If the weather proves dry, water the bed freely, also the drills before planting. After the plants have become thoroughly established a few waterings with liquid manure will greatly assist them both as regards the size and tenderness of the leaves. With a little care and attention as regards protection in frosty weather and the blanching, good, tender, sweet Endive may be had over a long period.

Chicory.—We find this a most welcome salad, and is both easily grown and bleached. If given a good position the plants develop splendid crowns and may be lifted as required, placing several roots in large pots filled with light soil or leaf-mould and standing them in a moderately warm, dark place, when they soon commence making new tender leaves. It takes very little time in winter to have a good supply of this most useful salad. There are many ways to assist the bleaching process, such as boxes with covers, inverted flower-pots, or planting thickly under stages or in a Mushroom-house.

Selecting a Seed-Bed for Cabbages.—In selecting a place for the Cabbage seed-beds a well-exposed south border should be chosen. Let the drills be made 2 inches deep and rather broad at the bottom, and about 9 inches apart. If the soil is very dry, thoroughly soak the drills before sowing. Cover the seed over with moderately fine soil, and if the weather proves very dry, to assist germination let the beds be covered over with a mat or some other material to conserve moisture. Plants raised from these sowings should be large enough for planting out on good land in September, following spring Onions or some other crop. If in good heart and moderately rich it need not be dug up, but be deeply hoed and raked over, and the plants may stand 18 inches apart each way. Good varieties are Ellam's Early, Flower of Spring, Early Rainham, Mein's No. 1 and Mackinlay's Matchless. The latter is exceptionally good and an evenly selected strain. Others might be mentioned, but the above are very dependable; and for pickling, Red Dutch.

A New Butter Bean.—Messrs. John Waterer, Sons and Crisp, Limited, Bagshot, send a sample of a new Butter Bean, to which they have given an extensive trial this season at the Twyford and Bagshot nurseries. It is an improvement upon other Butter Beans, inasmuch as the pods are longer, the flesh thicker, sweeter and of better flavour. These, however, are not the most remarkable characteristics of the Bean. It is claimed to be one of the quickest-growing varieties in cultivation. Seed was sown on April 28 and a picking of excellent Beans made on June 27, which means that the Beans only took about nine weeks to mature. It is extremely free bearing and continuous; also, so far as we are able to ascertain, quite distinct from any other variety on the market. After comparing it with others, we have formed a very high opinion of this Butter Bean, which we understand will be known as Wargrave Abundance. It should prove of considerable value owing to the short space of time which it takes to come to maturity.

Peas for Drying.—We are interested to know that on the authority of Messrs. Barr and Sons, Little Marvel will dry and boil. The bulk of the shop dried Peas are, we believe, the old field Pea, Harrison's Glory, and we were under the impression that it was the only variety suitable. We have tried many varieties of wrinkled Peas, but they all refused to soften. Incidentally, we may mention that all Beans except the Horse Bean, which a while back was foisted on to the public, will boil well after drying. The most delicious dried white Bean we have tried is the American Macaslan Pole Bean, which has narrow seeds. The quality was much finer than that of the ordinary Haricot.

SOWING BATAVIAN ENDIVE FOR WINTER USE.

Why France was the Pioneer in Producing New Roses.—A long interesting chapter might be written by an historian of flowers upon the influence that the different habits and customs of mankind have had upon flowers. In the days before Queen Victoria came to the throne or the name of Rivers of Sawbridgeworth had risen and grown famous, the French were the great new Rose producers of the world. And why? Largely, if not exclusively, because it was the custom of the ancient nobility and gentry of France to repair to their country homes in May and to remain there until November or December. Hence there was a demand for beautiful summer flowers wherewith to fill their gardens. Thus it came about that the Rose was taken in hand, and Laffay, Cels, Joly and Vibert were the French counterparts of the Cants, the Dicksons, the Pauls, McGredy, Easlea and Hicks of to-day. Mrs. Gore's book, "The Rose Fanciers' Manual," was written to tell English rosarians of the thirties of last century how they managed things in France!

Raspberries After Fruiting.—Immediately the crops have been gathered, cut out all the old canes, and thin out the young growths, leaving only those needed to fruit next season, with the exception of where the stock is to be increased, when a sufficient number should be left for that purpose. After the thinning out is completed, tie up to the wires those left to fruit next year, allowing ample room in the ties for the swelling of the young wood. Attention to this matter will greatly add to the strength and fruitfulness of the canes. If the soil is light and porous and time will permit, give the plants a good mulching with rich manure and a thorough soaking of water at the roots, so that the manurial properties may be well washed in. This will also prove very beneficial to the new canes.

Strawberries.—The crops this season, although very heavy, have not lasted so long as in some previous seasons, at least on light land, drought being the sole cause; neither have the fruits been as sweet as we have before had them. Now that the fruits are at an end, no time is being lost in cleaning the beds of weeds and the plants of runners and some of the lower leaves and fruit-stalks. We shall, if possible, slightly loosen the surface and apply a good mulch of manure so as to give the plants a better chance of producing stronger crowns, which is a most important item.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

DRYING BLACK CURRANTS.

HAVING read with great interest the article on fruit drying in THE GARDEN of July 14, page 272, I venture to send you some of our *last year's* dried Black Currants. As this fruit is not mentioned—it is by far the commonest in cottage gardens in Scotland—you may like to see what can be done with it. I also send some which have been steamed and are ready for use, either to stew with a little sugar or to mix in with "real" Currants in puddings, &c., for which purpose we find them quite useful. The Black Currants were dried on wire baking trays on an ordinary kitchen range, being left there all night for about a fortnight and lifted off in the mornings. I may also say that in 1915 we dried a good many Plums. Mitchelson's was the most successful, and made excellent Prunes, with the true Prune flavour. With some of the other varieties, such as Belgian Purple, we failed entirely. For fruit drying 1916 was a most unfavourable year, as we had continuous rains during August and September, so we were very pleased at having succeeded with the Black Currants.—H. M. BROWN.

[We are very grateful to our correspondent for drawing attention to this subject. From the samples sent it is evident that Black Currants may be dried satisfactorily, and as the crop is heavy in most gardens, this information will be welcomed by readers in all parts of the country.—ED.]

APPLE STIRLING CASTLE IN DUMFRIESSHIRE.

THIS popular Apple is very largely cultivated in Dumfriesshire, and many excellent fruits are produced. I do not recollect seeing it finer than on a wall tree in the garden of Mr. J. A. Mather at Hastings Hall, Moniaive. The fruits were not only large, but were almost uniform in size and of perfect form.—S. A.

GARDEN LABELS.

I DOUBT if Miss Gertrude Jekyll voices the opinions of the majority of owners and gardeners in her statement that labels should never be seen in ornamental ground (see issue July 14, page 273). Surely it is possible to use and place the material in such a way as not to be unduly conspicuous. The ornamental grounds at Kew are not less so by the trees, shrubs and occupants of beds being labelled. Most people, I venture to write, would hold they were more interesting—certainly more instructive—because of the names of the various subjects being made known. Not all employers, however enthusiastic, and decidedly not all gardeners, have had the chance of becoming familiar with the many good things possible in ornamental grounds. Labels save many questions for such people, are a source of genuine knowledge to earnest seekers, and also at times a memory refresher to even the best informed. It seems incredible that the dull grey of Acme and zinc labels, when intelligently attached, could be considered ugly or out of place in any well-kept ornamental ground. The most durable labels for flower borders, and not too obtrusive, in my humble opinion, are of zinc, written on with indelible ink—the long shape as shown in the illustration to the article referred to before.—C. T., *Ampthill Park.*

POTATOES GROWING OUT—SECOND GROWTH IN POTATOES.

YOUR correspondent "Wayland" writes about "Early Potatoes Growing Out," and rightly advises lifting and using such. It does not follow, of course, that every tuber at a root will have grown out. Those which have not will keep for seed or to be used later. When reading "Wayland's" note I thought of a photograph I had of a tuber showing second growth on a maincrop variety (The Factor). It is, I think, the most serious form of second growth. It spoils the appearance and keeping qualities of the tuber and also the cooking quality, because the large end will cook white and dry and the small end creamy in colour and soapy. Weather conditions are entirely the cause of second growth. In Scotland the Potato crop looks well, and the forecast is that it will be above the average. Prices have come tumbling down.—W. CUTHBERTSON, *Duddingston.*

SECOND GROWTH ON A MAINCROP POTATO.

The left end would cook white and the right end be close and yellow.

A HERTFORDSHIRE HARDY FERNERY.

YOUR contributor "C. T. H." in the issue of THE GARDEN for July 14, page 273, speaks, with a measure of commendation, of the fernery in Danesbury Park, Welwyn, and makes pointed mention of his inability to determine whether the large stone boulders were found there naturally or specially taken there. "If," writes your correspondent, "the latter was the case, all traces of artificiality have gone, for the materials are weather-beaten and overgrown with moss." Well, Sir, the latter was the case. The fernery in question was formed for the then owner of the Park, the late W. J. Blake, Esq., in 1860. I worked on it as a lad. The site was a disused chalk pit or quarry, and all the material used was drawn from local sources. Unless my memory is at fault, I believe that the head-gardener, the late Mr. G. Parsons, made special provision for cultivating the Royal Fern, Osmunda regalis. Although traces of this plant are no longer to be found, I feel a legitimate pride when reading of the present condition of a work upon which I was engaged nearly sixty years ago.—JAMES PULHAM, 71, *Newman Street, W.*

ROBINIA KELSEYI: A WARNING.

THIS lovely Pea-flowered Acacia fully deserves the award recently given to it. But purchasers are reminded that the wood is extremely brittle, and it cannot be grown in the open except as a bush. Its finely divided foliage forms an elegant backing for its bright pink flowers, and the safest place to grow it would be on a west or east wall, where the large-flowered Rose Acacia is also happy.—GEORGE BUNYARD.

THE SCHOOLGIRL'S SHARE.

A FEW days ago an unknown young lady, signing herself "A Schoolgirl," wrote me a long letter about holiday work on the land. Her letter was interesting, and I am bold enough to write you on the subject, hoping you will put this letter in at once. In the course of her epistle the young lady said: "I want to do my share in working on the land, but I can't, because I don't know how to. Is there no organisation that takes boys and girls who are willing to work on the land? If not, surely there ought to be. My school gives us nine weeks' holiday, and I don't want to do nothing all that time. I shall go away to the seaside for about a month, I suppose, but I want to do something on the land to help my King and Country for the rest of the time. Someone said you could help me and others, so I write you." Unfortunately, this young lady omitted her name and address, but I hope she may chance to see this reply. More unfortunate still, I cannot help her and others, much as I should like to, for I have up to now heard of no organisation for holiday work on the land. Her letter probably expresses the feeling of a good many other schoolgirls and schoolboys. They want to do their share in national work and national labour on the land, but they "can't, because they don't know how to." Can anything be done to wake up the authorities, for it must be someone's duty to organise this labour? There ought, of course, to be a committee in every district. There is not a lot of time to waste; if anything is to be done, it should be done at once. Let us hope it will be.—GARDENING CONSULTANT.

BUSH HOUSES, &c.

THESE are a feature of New South Wales gardening novel to a visitor from the "cold country." Nearly all the Sydney suburban gardens I have visited contain a specimen, but not infrequently in the neglected condition not unknown as regards conservatories at home. The objects of bush houses are to subdue too powerful sunshine, keep plants moist and cool, and protected from hot, drying winds. Twenty feet square seems a popular size, and a sunny situation is selected; construction differs somewhat. There may be a roughly built stone or brick wall up to 6 feet high; boards are sometimes used, or only a wall on the windiest sides. The roof should have only a slight fall, sufficient to carry off the drips. It is composed of tightly stretched wires, 1 foot apart, or of 4-inch wire-netting, the whole being interlaced with dried branches of Ti-tree, 3 feet or 4 feet long. Creepers are not allowed to grow on the roof, and in winter the amount of shade should be reduced. Planting out, not employing pot plants, is preferred, so the soil should be free from tree roots, be trenched and ameliorated, and may require to be

drained. The following are recommended for a bush house in the neighbourhood of Sydney: Azaleas, Begonias in great variety, Balsams, Coleus, Cyclamen, hardy Ferns (including Adiantums), Fuchsias, Lilium auratum and L. speciosum, English Primroses, Primula sinensis and P. obconica, and readers of THE GARDEN will readily add to this brief list. Sydney appears to me a paradise for gardeners, but I arrived early in an abnormally cool and moist summer, and have no visual idea of the normal later drying heat which is the principal disability of the climate. Suburban gardens are up to the best English standard, and the wealth of subtropical floral features is positively bewildering. Conversing with a leading nurseryman, I learnt that the demand for medium-priced lines is very good, there being more demand than ever for seeds, bulbs and plants, despite the war. The more costly novelties, however, are slow of acceptance. Seeds are not offered in less than 3d. packets, and I will give a few prices illustrative of the substantial profits which must exist in the distributing business, the more so when the case of raising stock is taken into account. Carnations, so-called 1916 novelties, 2s. 6d. each; older varieties, 1s. and 1s. 6d. Roses, novelties, 3s. 6d. each. Narcissi Sir Watkin and Poeticus ornatus, 2d. each, 1s. 6d. per dozen. Gladiolus The Bride, 4d. each, 2s. 6d. per dozen. Spanish Iris, 3d. each, 1s. 6d. per dozen. Hyacinths, 6d. and 8d. each. The high price of labour and other difficulties in connection with it must be borne in mind. Several of even the biggest nursery firms have abandoned large cultural establishments, finding it better to be supplied by small growers on the contract system. Carnations are fashionable as outdoor plants, but the flowers I have seen are not of first-rate quality. One of the things that cannot be done at Sydney is rock gardening according to English ideas, as alpines will not succeed here.—ARTHUR GARNETT, *Sydney.*

LATHYRUS AZUREUS AND OROBUS VARIUS.

THIS annual or blue Pea, sometimes called L. magellanicus, with its large and conspicuous sky blue flowers, is a most beautiful plant at this season, its fine-leaved, graceful foliage being covered with blossom. Here, from seed sown in spring, it rapidly attains a height of some 3 feet to 4 feet. It is a sun lover, and appears to be an easy doer in a light, free soil. The pods are curiously winged and the seed very large for the size of the bloom. Some sticks, trellis or other support is essential. Its relation Orobus varius, which has sulked for years, has bloomed well and ripened seed this season. Its delicately beautiful foliage and loose clusters of Pea-shaped flowers in deep rose and pure white make an attractive feature in a sunny corner of the early summer rock garden.—A. T. JOHNSON, *North Wales.*

YEW HEDGES: A CAUTION.

GARDENERS need to be reminded that every care should be taken to burn at once all clippings and prunings of Yew hedges. If thrown on the rubbish heap the lawn-mowing cob may find them and cause his death, as when half dried they are doubly poisonous. The writer had to pay a neighbour compensation. One of his hungry horses reached over the hedge and helped himself to Yew, and died at once. Legally the horse was a "trespasser," and I might have fought the case, but I felt it best to pay and avoid all bother.—GEORGE BUNYARD.

PAROCHETUS COMMUNIS.

THE Blue Himalayan Pea is a rare subject for the water-side or damp corner of the rock garden. In manner of growth and form of leaf it is precisely like any bit of creeping Clover that is doing well. But the flowers are distinctly Pea-shaped, borne singly on long, thin stems, and of a most perfect azure. P. communis is a rampant grower in congenial circumstances, and though perfectly hardy in normal conditions, it was killed out in some districts last winter.—A. T. J.

CORDYLINE AUSTRALIS IN A PEMBROKE GARDEN.

I ENCLOSE a photograph of a group of Cordylines (Dracæna australis) in blossom here, which you might like to reproduce in THE GARDEN. They have been here about twenty-seven years, and were raised from seed; they blossom every year, but not often as freely as this; and they ripen seeds, of which the missel-thrushes are especially fond. — M. B. MIREHOUSE, *The Hall, Angle, Pembroke.*

A GROUP OF CORDYLINES IN A READER'S GARDEN.

WELL-RIPENED WOOD.

IN THE GARDEN of July 7, page 256, "S. E. D. T." challenges my remarks on this subject, but I fear his own deductions will scarcely bear examination. If, as he says, the extra long rest enjoyed by plants and trees during last winter is the reason for the abnormally fine display of bloom this spring, how does he explain the fact that fruit-buds on trees are formed the previous autumn—[Is this a fact? It is thought by many that the fruit-buds are formed much earlier.—ED.]—and that the Daffodil and other bulbous plants have the embryo built up during the growing period of the previous season? There is something wrong with his theory in another direction, for our winter here, although very wet and disagreeable, was not by any means cold until February, so that the plants did not enjoy a greater period than usual of entire stagnation. I am glad that "Caledonia" in his interesting letter in the same issue is able to corroborate my experience.—C. BLAIR, *Preston House Gardens, Linlithgow.*

Vegetables for Sowing During August

UNDER normal conditions the end of the third week in July marks the finish of the sowing season for most vegetables. In many gardens this work is brought to a conclusion much earlier, partly through lack of knowledge and partly indifference on the part of owner and gardener. At ordinary times this is not very serious, but now that we are rightly being urged to grow as much wholesome food as possible, and to economise with existing supplies, it is the duty of everyone to adopt unusual or little-known measures with those ends in view. The amount of success attained with the late sowings that I will advocate will depend to a large extent on the season and, in a less degree, the kind of soil one has to contend with and the amount of care that can be given to the crops. Even with highly unfavourable circumstances partial and useful crops will be obtained, and it is impossible to place too strongly before those who have ground and seed available the desirability of attempting something at least on the lines indicated.

Potatoes.—Now that new Potatoes are plentiful, it is far more profitable to plant seed tubers, where such exist, than to feed them to pigs. Even at this date tubers may be planted, with every likelihood of yielding good crops for use at the end of October or early November. Where old tubers are not available I would not hesitate to plant new ones, selecting these from the earliest and most matured plants in the garden. If lifted and rested for a week or so before replanting, they will give some useful tubers during late autumn.

Carrots.—Next to Potatoes these are the most useful vegetable to sow now for winter use. A well-drained plot of moderately rich and thoroughly tilled ground should form the seed-bed, and a stump-rooted Carrot ought to be chosen, as this type matures more quickly than the longer ones. Young roots from this sowing will be available for use from the end of October onwards through the winter. The bed should be protected with Bracken or other litter during severe frost.

Turnips.—About mid-August last year I made a sowing of Early Snowball, and the result was an excellent crop for use during the winter. Thin sowing, in rows 1 foot apart, and early thinning, so that the plants stand 9 inches asunder, are essential. Mulching between the rows with lawn clippings will preserve moisture and prevent the roots becoming "woody."

Beetroot.—This is a rather risky crop to sow now, yet if seed of a Turnip-rooted variety is available and a warm, well-drained piece of ground is vacant, it is worth trying. The roots will not be very large by early November, yet if the elements are favourable they will be of sufficient size for use in salads.

Radishes.—Seed of French Breakfast variety, scattered thinly and lightly covered with soil, will yield some useful salad in a very short time. It is necessary to keep the plants well watered, hence the bed should be in an easily accessible place.

Onions.—The present is a good time to sow seeds of winter or spring Onions. These have to stand through the winter, and are either pulled and used green at the end of March or during April, or transplanted at the end of October for growing on into large bulbs for use in July of next year. As a catch crop the growing of these Onions for salad is one of the most profitable for market

gardeners. A system that I used to adopt largely was to sow a row between every two rows of newly planted Strawberries. The Onions were cleared in April, and did not do the slightest harm to the Strawberries.

Lettuces.—These also used to be sown between the newly planted Strawberries, or else in a separate bed, and the seedlings transplanted there later on. They were cleared in May, just when the Strawberries were commencing to flower. Hardy Hammersmith for a Cabbage variety and Black-seeded Bath Cos for an erect sort were the varieties chosen. The end of August is a good time to sow.

Spring Cabbages.—From August 1 to August 12 is the period that experience tells us is best for sowing seeds of this important crop. They are scattered thinly in rows 1 foot apart, and when a few inches high are transplanted to their permanent positions. The distance apart will depend on the variety. Harbinger, which I think is the best and earliest of all, is a rather small Cabbage, and needs but 18 inches between the rows and 1 foot between the plants. Though small, it is a Cabbage of the best quality. W. H.

POTATO SPRAYING AT WALTON-ON-THAMES

BY THOMAS STEVENSON.

[Fortunately, Potatoes are looking strong and healthy in many parts of the country, but it should be borne in mind that it is not too late for the much-dreaded disease to make its appearance. Those who have not sprayed are reminded that it is not too late to do so even now. Arrangements for demonstrations in Potato spraying may be made with the Food Production Department, 72, Victoria Street, Westminster, London, S.W. Lieutenant Ascroft, who is in charge of the Potato Spraying Department, will at once send experts to advise on this important work and to give demonstrations free of all charge.—ED.]

NO matter where one turns, land that has been lying idle for years is broken up and apparently carrying good crops, and if one can judge by appearances so early in the season, these recently vacant plots must add materially to the food supply during the coming winter. In this neighbourhood the crops of Potatoes look uncommonly well; in fact, I have never seen better promise—not even on old-established allotments and gardens—than is to be seen on these freshly broken-up plots, and great credit is due to the workers, as in most instances the work has been done under very trying conditions, and done well. Single digging has been the exception rather than the rule, and it is to this that many must credit their success, very little organic or chemical manure being available to help them. Much credit is also due to the various Food Production Committees, and where the members have put their heart into the matter the benefit accruing to the allotment holders is very considerable. As an instance of real enthusiasm I would mention the Walton-on-Thames Council. This riverside town has a population of about 10,000, and there are 1,800 allotments under cultivation, 37 tons of Potatoes having been distributed by the Council alone, and this does not by any means represent the total amount of Potatoes being grown.

IN READINESS FOR THE DAY'S WORK.

Showing the workers and the spraying apparatus in the Council yard. Six sprayers are employed and between 300 gallons and 400 gallons of mixture are applied each day.

Early in the season a member of the Council—a Potato grower of repute—gave a most excellent lecture on the cultivation, which was well attended, and the number of questions asked on the various phases of cultivation showed how keen the audience was to take advantage of the grower's knowledge. One member of the audience, however, was not quite satisfied with the advice given on the depth of planting, as his experience proved that Potatoes planted fully 1 foot deep gave better results than when planted 4 inches to 6 inches as advised. At lifting-time I fully expect this man will have many lookers-on, as the lecturer doubted if he would ever see the seeds again, much less a good crop from them, and on my soil I am quite sure he would not. This is, however, by the way.

The question of spraying has been seriously taken up under the direction of the surveyor, Mr. R. Wilds, and the horticultural representative for the district, Mr. H. T. Wilkin, and the method employed is well worth quoting. Spraying commenced on July 2 and is being carried on daily, except, of course, when raining or when the sun is particularly burning. Six sprayers are in use, and between 300 gallons and 400 gallons of Burgundy mixture are applied each day. The system, though simple, is excellent and easily worked, consisting of a mixing apparatus at the Council yard (see the first illustration). This shows barrels, which are graduated for 20 gallons and 40 gallons, raised on a platform, one for the soda solution and the other for the copper sulphate.

Two bags of soda and two bags of copper sulphate are dissolved in separate barrels, after which 20 gallons of the soda solution and a similar quantity of copper sulphate are run into each barrel under the staging. The barrels are slung into a cart and taken to the field of operations, where they are placed on empty tubs which are about the right height for filling the sprayers (see the second illustration). By the use of these tubs on end the cart is released to bring further supplies, and thus much time is saved. The barrels used are of 40 gallons capacity, fitted with wooden taps, and can be easily rolled and moved about by a couple of men. The third illustration shows the sprayers at work.

The Council have also sown considerable breadths of the various Brassicas for planting between the Potatoes, and later varieties, such as Christmas Cabbage and Coleworts, for planting after the Potatoes are lifted, thus ensuring the ground being occupied and not left idle during the autumn.

Lectures and demonstrations on fruit and vegetable bottling have been given by Mrs. W. A. Bilney of Ronneby, Oatlands Chase, and the first consignment of 400 dozen fruit bottles has been distributed. This is most fortunate, for there are heavy crops of fruit in the district, especially soft fruits such as Black Currants, Red Currants and Raspberries, all of which bottle quite well. Further lectures and demonstrations are to be given during the season. Such work is worthy of great praise, and, as stated earlier in my article, must do much to augment

FILLING THE SPRAYING MACHINES.

our food supply; and at the close of the war let us hope that the Committees will not be dissolved, but will continue to carry on the good work commenced through sheer necessity.

Early Potatoes on the Devon Cliffs

NOT at first glance would one expect to find advanced cultivation at an altitude of 250 feet, where the cliff top is crowned with wind-battered Thorn bushes, at the foot where the waves, remote and small, creep slowly up the shingle. Midway between, even when the winds of March were blowing overhead, was a summer profusion of foliage, bud and blossom. For here is interposed in the barren cliff a space for a natural garden, greatly favoured in situation and richly productive. All along the six sunny miles of Devon coast, from Sidmouth to Branscombe, runs a fertile belt. In some places it is a mere ledge, half a dozen feet wide; in others, a stretch of gently sloping terraces, covering an acre or more of ground, with here and there a descent so steep that even a tuft of grass can scarcely find holding room. And on this sheltered undercliff are grown some of the earliest and best English Potatoes.

No one seems to know how long these gardens have existed. Branscombe Potatoes are famous throughout the district, and are not unknown further afield, and "Branscombe," in reference to Potatoes, is merely a generic name for the whole range of cliff gardens, of which the principal are Branscombe itself, Weston and Salcombe Regis. The soil is composed largely of earth from the cliff top and sand worn away from the rock by the constant erosion of winter storms and deposited on the terraces below. Conditions of growth are very favourable, and cultivation is by no means costly, as the gardens, facing south, receive the sun all day long, and are naturally irrigated by the springs which trickle from the cliff above, while the staple fertiliser is seaweed, obtainable in large quantities from the beach below.

At Weston, where the gradients are tolerably easy, nearly all the haulage is done by donkeys; but their employment is restricted at Salcombe Regis by reason of the steepness and difficulty of the paths. There most of the carrying is undertaken by the cultivators themselves.

Some parts of the Salcombe cliff are so steep that no path can be made there, access to the lower plots being obtained by means of a rope attached to stout iron pegs driven into the rock face.

The cultivation of the cliff gardens is done in the spare time of the men who rent them, all of whom have other employment. As the longshoreman is to the deep sea fisherman, so is the cliff cultivator to the farmer. He is the free-lance of agriculture. MELVILLE MACKAY.

BOTTLING FRUITS.—II

RED, BLACK, AND WHITE CURRANTS, RASPBERRIES AND CHERRIES.

IN the issue of THE GARDEN for June 23 I mentioned that I hoped to deal with other fruits as the best season arrived for their bottling. The time has now come for dealing with the next fruits after Gooseberries, viz., Currants, Raspberries and Cherries of sorts.

Red Currants.—These should, if necessary, be rinsed first to remove any foreign matter, then picked off the stalks and packed into the bottles, filling up to the top with water. The use of a syrup made with two ounces of sugar to each quart of water is advantageous, but, as explained previously, water alone will act perfectly well, providing the bottles are quite airtight. As before, heat to a temperature of 160° Fahr. The new large varieties, such as Comet and Raby Castle, are among the best for this purpose.

Black Currants.—The same treatment should be given as for Red Currants.

White Currants.—These are more of a fresh dessert fruit than a culinary one. I do not bottle them myself nor do I advocate them being bottled, but they will preserve perfectly well. Their chief demerit, in my opinion, is their very unsatisfactory colour when preserved. For those who wish to bottle them, use the same method as for the other Currants.

Raspberries.—These are very satisfactory fruits to bottle. Remove the stalks, but *do not* wash the fruits, as this spoils their quality. Fill the jars as tightly as possible with the fruits, adding sufficient water or syrup to completely fill the jar, and heat as before. Mixed with Red Currants they also give a delicious preserve. The larger and better the varieties, the more satisfactory they are for bottling. With the soft fruits the main desideratum is to pack them as tightly as possible in the bottles, as this gives far better results.

Cherries.—We are now getting the first of the stone fruits in the shape of Cherries. Remove the stalks, and clean, if necessary, by wiping with a clean, soft cloth; then treat as recommended for the other fruits. It is as well to heat these for a slightly longer time to ensure perfect sterilisation. Among the most satisfactory sweet varieties for this purpose are the Bigarreau, May Duke, Late Duke, and Black Eagle. Morello is undoubtedly one of the best fruits to bottle that is known, but this variety will not be ready for some time to come.

Let me reiterate once again the necessity for testing the jars as to whether they are airtight when cold, or fermentation will set in and the results of one's efforts be completely spoilt. Do not forget to set in a draught-proof place to cool off.

In each of the cases of the fruits mentioned above it is best to select the fruits slightly underripe than over-ripe. (MRS.) E. J. BECKETT.

SPRAYING IN POTATO FIELDS AT WALTON-ON-THAMES.

DAFFODIL NOTES

By the Rev. Joseph Jacob.

THE DISEASES OF DAFFODILS ARE SO PERSISTENT THAT QUARANTINE BEDS ARE SUGGESTED FOR CHOICE VARIETIES.

Introductory.—What funny bedfellows are tucked away in that unexplainably and unlocatable place, the storehouse of the mind! Some may have been there from the days of our childhood, *e.g.*, Black Currant jam and "powders"; others have only been put in yesterday. These storings away are as a rule very individualistic. Few associations are universal. Yours are different to mine and mine to yours. Speaking for myself, one of the last additions to my storehouse is Rhubarb tart and Daffodils. The connecting link is the history of their garden development and their general utility, if pleasing the palate and the eye may be included under such a heading. Just as Rhubarb tart, compared with Rhubarb pills (?) is a new acquisition, so is the hardy modern British-made Daffodil of the present day compared with those that were current coin in the days of Parkinson. It will be rough luck if, after filling our eyes with wondrous realities and visions, its supreme purpose is found to be food for the eelworm. Circumstances have for the time being transformed my garden into a rock and myself into a limpet. Hence I have neither seen nor heard all I usually do in a normal Daffodil season, and I cannot say how growers as a rule have fared.

Disease and Eelworm.—One hoped that the Royal Horticultural Society would have had the prescience to have published in pamphlet form Mr. Ramsbotham's lecture immediately after its delivery; but, as far as I am aware, nothing of the kind has been done. I presume it will appear in the distant future in a volume of the Journal, when the planting season of 1917 is past. "O, Iago, the pity of it, Iago!" The Daffodil has become so much a part of a normal spring garden that I hope our Editor will offer a certain space in The Garden to readers with experience of pests who may be willing to share that experience with others. My own trouble is eelworm. I have found my plan of carefully going over my best varieties when they were stored in their trays every ten days or so, and then planting in late October in soil in which no Daffodils have been grown for a very long time, most efficacious. At the time of writing, however, I have not lifted all my bulbs, so it may be that I will have unpleasant surprises; for it appears to be highly probable that those but very slightly affected may not show any decided symptoms of being attacked at their flowering-time. Another probable fact which practical experience seems to be pointing out is that certain varieties are more liable to attacks than others. The Leedsiis and the pale bicolors and so-called white trumpets (bi and ci in the Royal Horticultural Society's classification) seem to take the infection very easily. Lucifer and Sir Watkin, for example, become victims sooner than Emperor. I do not think any variety is immune. From an experiment in my own garden it seems to be highly probable that the condition of the soil may have a considerable influence in warding off or intensifying an attack. In 1915 I divided a long bed into four parts and took out the soil to a depth of about 2 feet. The bottoms of each part to a depth of 9 inches were filled as follows: (1) Soil dug out simply returned in a fine state, (2) light farmyard manure, (3) peat moss litter well broken up, (4) gossypium. Each part was planted with about half a dozen rows of each of these varieties—Emperor, princeps and Sir Watkin. After being two years in without being taken up, it is very evident that the cushion under the different parts has made all the difference in the world. The bulbs did best in the farmyard manure part; then followed those in ordinary soil, then those in peat, then those in gossypium. In other words, the colder and damper the bottom, the more adversely were the bulbs affected. Another observation which is confirmed by those who store bulbs is the seeming facility with which eelworms work destruction to "dried-off" bulbs in storage trays. Not only do they eat up the bulb they are in, but they seem to be able to migrate into adjoining ones, and so it is a common thing to find nests of infection here and there among presumably healthy and unaffected ones. Experience gained from storing small lots in bags made of cheesecloth tends to confirm this. Again 1917 has knocked on the head a thought which heretofore has given me much comfort. I have said to myself, "Thank God, Australia and New Zealand are practically immune." This last spring, however, to my intense sorrow, I have received letters from both Dominions which have rudely awakened me from my dream. I am not surprised that what I dreaded has happened, for the outward signs of the commencement of an attack are so obscure that the very elect are, unfortunately, liable to err and pass as sound what time will reveal as, alas! the reverse. All who grow choice and valuable varieties should at once, if they have not already done so, establish some quarantine beds, isolated from the part or parts of the garden where the collections are grown as completely as is practicable. Here all new purchases should remain for twelve months, for until a bulb has been wintered and summered no one can say if it is immune or not. A second bit of practical advice is to keep all new purchases spread out in trays without any of them touching one another, and, in addition, to delay their planting till a later date than heretofore has been deemed essential.

GOLD MEDAL ROSE MRS. GEORGE MARRIOTT.

The Royal Horticultural Society's Daffodil Show and Year Book.—In the middle of writing these notes I have heard that there is to be no show in 1918 and again no Year Book in 1917. I would have thought that the Royal Horticultural Society would have found it possible to issue a Year Book like the National Rose Society has done, and even the much smaller Perpetual-Flowering Carnation Society; but its Council does not realise that it is *in loco parentis* to the Daffodil. Its actions show more of the proverbial stepmother spirit than I like to see.

Seed-Time in 1917.—The wind is tempered to the shorn lamb. April last was an ideal time for hybridists. Personally, beyond seeing that my Calathinus crop did not fail, I did nothing in the way of fertilising, crossing or hybridising; but one is glad to think that there were certain enthusiasts who "made hay while the sun shone." How some of them did what they did none but those of the same kidney can imagine. Three hundred and ninety distinct tabulated crosses, a bag of 15,000 seeds (almost a pound in weight), are no mean accomplishments for the busiest of busy men; but then, after all, it is only they who can do more than their fellows. Do you not agree, Mr. Leak?

NEW ROSES

The new seedling Roses named received recognition from the National Rose Society at the special meeting held at the London Scottish Drill Hall, Buckingham Gate, S.W., on July 17.

GOLD MEDALS.

Sunstar (H.T.).—A perpetual-flowering bedding and decorative variety. The predominant colour is salmon red, the base of the petals rich orange. Distinct and beautiful.

Elizabeth Cullen (H.T.).—Also recommended for bedding and decorative purposes. Colour crimson scarlet, shaded maroon, exceptionally free flowering as shown, and sweetly fragrant. These two were exhibited by Messrs. Alex. Dickson and Sons, Newtownards.

Mermaid.—A gloriously beautiful single-flowered Wichuraiana of the largest size. The great spreading flowers are of rich cream colour, this being enhanced by the golden anthers. The foliage, too, is proportionately large and of a lustrous green. Perhaps the most captivating novelty of the occasion. It was entered as a hybrid of Rosa bracteata. Suited for garden or trellis. From Messrs. William Paul and Son, Waltham Cross.

Mrs. George Marriott (H.T.).—A full and beautifully formed Rose of rich cream and pink colour, the petals reflexing in a charming manner (see illustration on page 296). It is of a freely branching habit of growth.

Queen Alexandra (H.T.).—A perpetual-flowering exhibition or garden variety of free habit. The dominant colour is scarlet, the reverse of the petals as seen in the opening flower of coppery red tone, which renders it almost unique. The variety is distinctly fragrant. These two were from Messrs. S. McGredy and Son, Portadown, Ireland.

CERTIFICATES OF MERIT.

Edel.—Pure white single with creamy centre.

Emma Wright (H.T.).—The colour is deep orange with apricot. Very pretty in the bud, when there is a suggestion of an enlarged Old Gold. These were from Messrs. McGredy and Son, Portadown.

Miss May Marriott (Pernetiana).—The orange-coloured sport from Mme. Edouard Herriot already described in our columns. Shown by Mr. Thomas Robinson, Birmingham.

Mrs. Stewart Clark (H.T.).—Recommended as a bedding and decorative variety. The colour is yellow, with scarlet markings on the buds. Firm, shining foliage. From Messrs. Alex. Dickson and Sons, Newtownards.

Pax (Hybrid Musk).—A very charming and large semi-double white perpetual-flowering variety, as good in autumn as now. It is of bush habit and 3 feet to 4 feet high. Two-feet-long sprays of it are beautiful in the cut state. From the Rev. J. H. Pemberton, Romford.

T. F. Crozier (H.T.).—For exhibition or garden use. The colour is soft yellow to cream.

E. Godfrey Brown (H.T.).—The colour is rich crimson scarlet; the variety is nicely fragrant. These two were shown by Messrs. Hugh Dickson and Sons, Belfast.

GOLD MEDAL ROSE MERMAID.

The Summer Pruning of Fruit Trees

JULY is admittedly the best summer month in which to carry out this operation. In the case of Apples in orchards, or in gardens where ample space is available, and where it is desired that the trees should grow into large specimens, summer pruning is perhaps of less importance than it is when considered in relation to trees in smaller gardens, where they have to be restricted to narrower quarters. There are four established and well-known systems of pruning hardy fruit trees, each bearing important relations one to the other—winter, summer, root pruning, and disbudding.

When each receives the attention which is its due at the right time, then the art of pruning is very simple, and becomes one of the most enjoyable pleasures the fruit-grower has to pursue. There are two distinct systems of summer pruning, each advocated as the best by their respective champions, namely, the spur system and the long shoot one. These two ways of summer pruning apply to Apples, Pears, Plums and Cherries. The long shoot system consists in thinning out superfluous shoots from the main branches of the trees, leaving only as many side shoots as will furnish the tree with bearing wood without overcrowding. These shoots, as well as all the terminal ones, must be left their whole length without any shortening whatever.

This system applies more to the Apple and Plum than to the other fruits mentioned. Some very good cultivators declare it to be their conviction, after fully proving both systems, that this one is successful in producing the finer fruit and better crops. One objection to this system is that by leaving the annual shoots their full length the bottom buds of the shoot (which we believe to be the strongest and best) generally refuse to break into growth the following spring, thus forcing those branches to depend on the weaker terminal buds for the production of wood and fruit buds the following year, leaving the base of the shoot barren. This, repeated in each shoot every year, results in the course of time in leaving the body of the tree bare, with the bulk of the fruit at the terminals of the branches only.

It may be said that side shoots are encouraged in the body of the tree. This must be admitted; but they are so much shaded by the terminal growth of the outer branches as, in our experience, to reduce them to little value as fruit producers.

The other system, as we have said before, is the spur system, and this is preferable both in the bush and pyramid form of tree, more especially for gardens of limited extent. It consists, briefly, of having so many main branches to a tree (whether bush or pyramid) from 10 inches to 12 inches apart each way, according to the robustness of growth or otherwise of the tree until it is completely furnished and well balanced with fruitful main branches. By having these main branches thus widely separated, abundant space is provided for the admittance of all light and air obtainable in the course of the summer, and without the influence of which in consolidating and ripening the wood it is hopeless to expect fruitful results.

Summer pruning under this system consists in stopping the lateral growth which emerges out of the main branches at the seventh or eighth leaf towards the middle or end of July. The object of this is to concentrate the remaining growing force of the tree in strengthening the base of the shoot, in order that it may produce in due time stronger and better fruit-buds. Some object to this method because, without resorting to disbudding in spring, it is apt to produce a plethora of those lateral shoots. This is granted, but by timely attention to disbudding this objection falls to the ground. The terminal shoots are treated the same as the laterals, only instead of shortening them to seven or eight leaves they are cut back to within 12 inches or 15 inches of their base, according to whether the growth be strong or weak, the weaker being more severely cut. By some this system is considered to be of too restrictive a nature, hampering, as they say, the free development of the trees. All pruning, no doubt, tends in this direction, but when it is considered that a fair-sized tree would contain twenty or more main branches and that each branch is extended every year 1 foot, making 20 feet for each year, with the added lateral growth to each foot of terminal, the annual extension of the tree is considerable.

Apple and other trees of pendent growth, and which are inclined to bear more freely at the ends of the branches, would possibly succeed better under the long shoot system. We hope we have succeeded in making the way clear how to carry out both systems, and would advise those interested to try both methods and prove to their own satisfaction which renders them the best service.

THE SUMMER PRUNING OF PEACH TREES

SELDOM indeed do we see Peach trees on the open wall or under glass that are too thinly pruned; more often it is the reverse. Among gardeners generally there is a tendency not to remove sufficient shoots when disbudding the trees in spring, so that when the shoots and leaves develop the trees are all too often overcrowded. Of all fruit trees, none suffer more than Peaches and Nectarines from an overcrop of fruit. If the trees are asked to yield annually too heavy a crop, they in time resent such request by a diminished size, loss of flavour in the fruit, and an ultimate loss of branches. Fewer fruits of higher quality are to be preferred to those of medium quality.

"When trees are overcrowded with weak shoots, why leave them until the winter pruning period?" is a question to which I never could get a satisfactory reply when enquiring. Do not hesitate to cut away all surplus growth is the advice I give, which will be well repaid in better developed and matured growth for next season's crop in consequence of more space for leaf development. E. M.

JUNE IN A DEVON GARDEN

A GARDEN OF LITTLE-KNOWN SHRUBS AND HARDY PLANTS.

By Robert W. Wallace.

COVERING about an acre, the interesting garden of Mr. Eden Phillpotts, the famous Devon novelist, contains within its walls an unusually fine collection of little-known trees, flowering shrubs and plants. The area of the garden was originally a sharp slope to the south, which has been skilfully terraced, so that much variety is given to the aspect and many positions for plants of all habits. On the broad terrace by the west end in early June, on the wall of the house a fine white Wistaria multijuga was mingling its beauties with those of the pink Anemone Rose, which was climbing finely up the adjoining garden wall; while at the foot, clumps of deep pink Pæonies were in flower. A few paces away blossoms of Magnolia parviflora were intermingling with ruby red flowers of Rosa Moyesii. Here also is a young plant of Magnolia Campbellii, about 8 feet high, and those who have seen this noble plant in flower

THE RARE PRIMULA NUTANS.

can imagine the delight of the owner in years to come when his plant is covered with these immense and lovely deep pink, goblet-shaped flowers.

Passing the Magnolias, a large clump of Lilium Szovitzianum came into view, expanding its many yellow blossoms, the perfume of which filled this corner of the garden in the evening. To complete the picture, from a certain angle on a lower path a large and finely flowered clump of the purple Geranium grandiflorum could be seen at the foot of the Lily, forming a lovely colour contrast. In the west terrace border the noble Paulownia imperialis was passing out of flower and a large and vigorous Parrotia persica gave promise of grand autumn colouring. Edging the border were clumps of the newer June Bearded Irises, such as the grand Oriflamme, the mysterious Isoline, Edouard Michel (in shades of deep wine red), Lady Foster (pale blue), Eldorado (in tones of iridescent copper and gold), Trojana (tall and majestic), Her Majesty (rosy pink), and many recent additions, such as Neptune, Stamboul, Prosper Laugier, and the giant Alcazar, which has received the great honour of a first-class certificate at the Wisley Trials—not now flowering, but promising well for next year. What grand garden plants these new Irises are! Their strength, size and colour are a revelation to those who only know the older forms.

In the same corner of the garden were Corokea Cotoneaster (4 feet high) and C. buddleoides (the latter covered with yellow flowers), while the Californian Poppy was sending up stems over 4 feet high. In narrow borders beneath the front of the house were many rare bulbous plants, including a mass of Calochortus, three years established, the plants of which were just expanding their beautiful butterfly-like blossoms. A mass of Iris Korolkowi and many of its hybrids were over, while the white Peruvian Alstrœmeria was just showing colour.

Space does not allow one to speak of the many rarities planted in the peat bed at the shady east end of the house, but I noted the deep scarlet Pentapterygium serpens, Berberidopsis corallina, Crinodendron Hookeri, Rhynchospermum jasminoides and Rhododendron calophyllum, all of which are growing well and coming into flower.

Descending below the level of the front terrace we find a long rock bed and moraine surmounted by many fine dwarf trees and flowering shrubs. Here was seen in flower the rare Chinese Primula nutans of Forrest's collecting, while, above, Ostrowskya magnifica is 4 feet high, with unfolding flowers of palest lavender; and Rock Roses, Saxifragas, Aubrietias, Campanulas, &c., tumble about in beautiful confusion amid the supporting limestone boulders. Rhodothamnus Chamæcistus is very happy, and in the retaining wall the golden Tropæolum polyphyllum is appearing in many directions. Close by is an effective little shrub—the rare Euonymus nanus linifolius, whose tiny brown flowers give place to orange scarlet berries in August.

The erect-growing Cupressus Wisselii, with its many upright green flames of growth, is very happy, while, beneath, Cotoneaster Dammeri gave promise of many scarlet berries for winter decoration. The seldom seen, blue-fringed Iris tectorum was in flower, but not the white variety, though flourishing. The glaucous-leaved Rosa Xanthina was full of pale yellow flowers, similar in appearance to Hugonis, and, near by, a most delightful little shrub, Andrachne colchica, with slender and graceful stems covered with tiny pale green leaves and small yellow flowers. Olearia insignis was breaking strongly and showing for flower.

A particularly pleasing combination at the top of the rockery was a fine specimen scarlet Japanese Maple, near to which was planted a blue Abies Kosteri. Descending once again we come to the level of the lawn, where, in the bed below the retaining wall, are many rare and fine shrubs. A glorious specimen of Carpenteria californica has been rather badly hit, but is now making strong growth. Callistemon speciosus and C. salignus, the white and red Bottle-brushes, are coming into flower. Anopteris glandulosa was going ahead finely. This has to be wintered in a cold house, otherwise the large, waxy, white Snowdrop-like flowers which open in April would be destroyed. The beautiful Brazilian evergreen Feijoa Sellowiana, with white and crimson flowers, has flowered well for many years but never fruited, and though suffering from the winter cold is now breaking strongly.

At either end of the lawn are many fine and uncommon shrubs. Notospartium Carmichaeliæ, whose pink Broom-like flowers appear in July, is growing near the base of a fine specimen Kœlreuteria paniculata, 20 feet high; while close by is a large specimen of Elæagnus macrophylla, the silvery leaves of which make a groundwork to the former, especially in autumn, when its leaves turn to orange. A grand specimen of the Chilian Colletia cruciata, some 15 feet high, thrusts its ugly face across the lawn; surely here is a substitute for barbed wire should it ever become scarce. Stephanandra flexuosa, standing by itself, illustrates how much finer many of our shrubs would appear had they sufficient room to develop. Knowing the owner's love for the beautiful in Nature, it is not surprising to find a small water garden in which are congregated a very select company. On the far side of the lawn in the centre of the garden is a small but cleverly constructed artificial pool,

THE SIBERIAN IRIS SNOW QUEEN.

surrounded by many bog beds. On the right flank stands a fine specimen of the lovely Golden Weeping Willow, whose graceful outlines attract much attention. At the foot of the Salix and on the other side of the pool are clumps of giant Rheums, whose bold foliage and stately spikes frame the pool and its occupants. Just now the tall red spear-like stems of R. Emodii are emerging from the weeping gold of the Willow; in the pond the slender Typha stenophylla contributes its beauty, while a smaller mass of the miniature Reedmace, with its wee club-like heads, is seen as a great contrast. Golden Club, with Buckbean and others, clothe the sides and penetrate the surface, which is mostly covered with a mass of the best Water Lilies. In particular do the forms of the pink Nymphæa caroliniana thrive, the warm, shallow water just suiting their requirements.

On a slightly lower level a new pond has been prepared, into which, with great care and interest, has been placed the greatest of all Water Lilies—the glorious ruby Escarboucle—and as a companion Mrs. Richmond, with its magnificent flowers of soft pink. I do not think there are any two finer Water Lilies than these. Again, beyond these in the surmounting beds are masses of Iris orientalis and Snow Queen in a happy contrast, while Primulas and a host of other moisture-loving subjects are planted in close proximity, including the new golden yellow Marsh Primrose.

We look beyond the pool to the end of the garden, where facing north in the cool are many fine Rhododendrons, including some very choice species, and at their feet were noticed Cypripedium spectabile and Orchis foliosa, the seldom seen Sanguinaria canadensis and the uncommon Kirengeshoma palmata; while in one corner was a large bed devoted to the culture of the giant Himalayan Lily, several fine spikes of which were sending up their towering and imposing stems. Another beautiful Himalayan was also at home, giving promise of great glory, viz., Meconopsis Wallichii, a good form of which is hard to beat, in spite of all the treasures from Western China.

The foregoing are but a tithe of the many fine plants Mr. Phillpotts grows; to mention all would probably weary your readers, but I trust I have indicated in some measure the delights of this most interesting garden, the dwellers in which, being personally introduced to me, under the guidance of the owner made my visit a thousand times more enjoyable.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Late Peas are growing sturdily, giving promise of satisfactory results. Supply the roots with water when necessary, and mulch the surface at least 1 foot wide on each side of the row as a safeguard against mildew, which is the greatest enemy late Peas have to contend with.

Autumn Onions.—Prepare the ground for this crop by deep digging, adding manure if possible. This crop should follow Potatoes, Peas, Beans, or Summer Spinach. The third week in August will be early enough to sow the seed. White Leviathan, White Emperor, Lemon and Blood Red Rocca are desirable varieties. Where only one is required for an early supply, select the former.

Cabbage.—Preparation should be made towards the end of the month to sow a pinch of seed for an early supply of Cabbage. Harbinger is quite the best variety for this purpose. The heads quickly turn in, and, the growth being compact, the plants do not occupy so much space as some other varieties. This should be followed by Ellam's, Flower of Spring and Sutton's April. If the weather is dry, deeply dig over the site before sowing the seed, well water overnight, break down the soil quite finely, sow the seed thinly to avoid a spindly growth in the young plants, and cover lightly, using some wood-ashes as a deterrent to the Turnip fly. Shade the bed with a mat or green boughs until the plants show through the soil, when they should be gradually exposed to induce a stocky growth.

Endive.—Continue to sow in well-watered drills, on Celery trenches, or any available site. Thin the early sown batches as required, transplanting some of the surplus plants to skeleton frames; these may be useful for filling gaps in the early supplies.

Cauliflowers, especially the Autumn Giant variety, will appreciate copious supplies of water as well as mulchings of strawy manure. Put out plants from late sowings; these will be useful quite late in the autumn, even if they do not grow large.

Globe Artichokes.—The renewed stock of these roots are making good growth, and with encouragement in keeping the surface soil stirred should be in a hardened state to withstand any reasonable wintry weather that may occur this year.

The Hardy Fruit Garden.

Raspberries.—Directly the fruit is gathered, cut away the old canes to make room for the current season's shoots, so that they will mature and give a full crop of fruit next season. If each clump is furnished with six stout new growths, the remainder should be removed, as nothing is gained by overcrowding.

Strawberries.—No time should be lost in cutting away all runners from the plants that have fruited and at least three parts of the old leaves, so as to ensure an early growth of leafage as a winter protection. Clear the ground of weeds and dig between the rows lightly with a fork, adding short manure where it is known the plants require assistance.

Fruit Under Glass.

Peaches and Nectarines.—When the fruit is gathered is the correct time to prune the trees by removing useless shoots, those that have given fruit, and any weakly growths that were left when disbudding. This early removal of such growths gives space for the remaining shoots intended for the next season's fruit supply, so that they may better mature by exposure.

Vines from which the fruit has been gathered should have the lateral growths removed and the side shoots shortened back to aid the maturation of the basal eyes, from which next season's crop will come. Although the Vines are semi-dormant, the roots must not be allowed to become dry, or their activity will be checked. Well water the borders in which late varieties are now swelling their berries, either before or after stoning. Thin sublateral growth to avoid overcrowding.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

French Beans.—Where a large breadth of these is being grown in addition to frame culture, a few rows should be permitted to carry pods until these approach maturity, for using as Haricots. Picked at the correct stage, there is no difficulty in drying them where there are vineries or Peach-houses. The pods should be spread on canvas sheets or mats on the borders, and after drying is completed the Beans may be shelled into bags to keep till winter.

Onions.—I would not advise any more manure for these. The bulbs will continue to swell for another six weeks or so, but all that the crop requires in the interval is the removal of any weeds that have surreptitiously crept in or eluded the many scufflings of preceding weeks. The sowing of seeds for a spring and summer crop should be no longer delayed, placing the seeds fairly thickly in drills. These succeed in moderately fertile soil and should receive manurial aid when growth commences in spring.

Mushrooms.—Where these are grown, means should be taken forthwith to secure supplies of stable manure with a fair proportion of straw. If no proper shed exists for its preparation, the Mushroom-house itself can be utilised, ventilating it freely to allow gases to escape and air to enter to partly dry the material. It must not be allowed to get too dry, and I have known instances when a slight addition of water has been needed to induce fermentation.

"Greens."—The Scot usually denominates what the Englishman calls Borecole by the name of Greens. I have previously mentioned this crop, and would just say here that as ground gets cleared of other vegetables, it may be very usefully filled with Borecole. In some years it has to do duty for Spinach as well as fill its own special rôle as a delicious winter and spring vegetable which overlaps into summer.

The Hardy Fruit Garden.

Peaches.—The current year's growths have now extended sufficiently for them to be regulated, though it would have been better had there been sufficient labour to have gone over the trees earlier. Just as many shoots as are seen to be needed to furnish the trees with fruiting wood for another year should be preserved; all the others should be rigorously removed. Generally the whole of the shoots are tacked to the walls, but they are more expeditiously controlled by means of short pieces of dry Willow or young shoots of Snowberry, the ends of which are slipped under the permanent Peach shoots, the terminal growths alone being tacked to the walls. Provided the trees were heavily mulched with cow-manure in spring and moderate crops taken, with space for the foliage to develop, there should be no fear of red spider nor need for spraying or syringing. These remarks are equally pertinent to the management of Nectarines.

Strawberries.—If the layers were secured sufficiently early, they should now, or very soon, be ready for transferring into fruiting pots, the very early ones into 5-inch and the main lot into 6-inch pots. The soil here is very light, and a one-fourth part of dried cow-manure rubbed through a quarter-inch mesh sieve should be added to the soil with the usual amount of artificial manure to ensure a healthy and vigorous plant. The compost, which, of course, I assume to be in the proper condition of moisture, cannot be made too hard in the pots, and especially that portion above the drainage and under the ball of the prepared plant. This simple expedient causes the roots to ramify equally throughout the new compost, instead of the plant rooting downwards and out of the drainage hole as happens when this is not seen to. As old Strawberry plants are cleared of fruit they should be grubbed up and left to dry, afterwards being burned in heaps.

Fruit Under Glass.

Grapes.—Vineries in which Lady Downe's is growing, the berries of which have arrived at the scalding period, must be kept ventilated night and day. The reason for this is that there may be no sudden rise of temperature nor no deposit of moisture on the berries, the borders and paths at the same time being kept dry. Heated pipes are a valuable aid, but not absolutely necessary provided these precautions are observed. It is not impossible that, with the general disuse of fire-heat, mildew may appear. This can only be where too much moisture has been kept in the vineries. People do not seem to realise that the Grape Vine is perfectly hardy and not a moisture-loving plant, and that it is the prey of mildew only when its natural proclivities are outraged. A very weak solution of Gishurst Compound, sprayed, is a specific, and more natural treatment should be given the Grape Vine afterwards. Grapes that are ripening should be ventilated regularly, and on cold, wet days the fires lighted where possible.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

Primula japonica and Trollius Golden Queen.—Perhaps the most satisfactory colour effects in the boggy and shady part of the wild garden this spring have been acquired by a grouping of these two plants. The brilliant gold of the one and the rich crimson of the other afford a very marked and distinctive contrast, and the easy grace of the Globe-flowers, both in stem and foliage, helps to detract from the stiffness of the Primulas. Whether in complete shade or in the sunbeams which pierce overhanging trees, the effect is one of remarkable beauty.—A. T. J.

A COLUMN FOR THE CURIOUS

MONKS' RHUBARB OR HERB PATIENCE (RUMEX ALPINUS).—Searching in the pages of Gerard's Herbal for information as to the medicinal use of this old physic-garden plant, the following entertaining story of the happy-go-lucky methods of a Tudor apothecary came to light. After a description of the general use of the plant as a moderate purgative, and a comparison of its efficacy with that of other plants of the same family, he says: "Other distinctions and differences, with the temperature and every other circumstance, I leave to the learned Physitions of our London Colledge (who are very well able to search this matter) as a thing farre above my reach, being no graduate, but a Countrey Scholler, as the whole framing of this Historie doth well declare, but I hope my good meaning may be well taken, considering I doe my best; not doubting but some of greater learning will perfect that which I have begun according to my small skill, especially the ice being broken unto him and the wood rough hewn to his hands. Notwithstanding I think it good to say this much more in mine own defence that although there bee many wants and defects in me, that were requisite to perform such a worke, yet may my long experience by chance happen upon some one thing or other that may do the learned good: considering what a notable experiment I learned of one John Bennet, a Chirurgion of Maidstone in Kent, a man as slenderly learned as myself, which he practised upon a Butcher's boy of the same town, as himself reported unto me; his practise was this: Being desired to cure the foresaid lad of an ague, which did grievously vex him, he promised him a medicine, and for want of one for the present (for a shift as himselfe confessed unto me) he tooke out of his garden three or four leaves of this plant of Rubarb, which myself had among other simples given him, which he stamped and strained with a draught of ale, and gave it to the lad in the morning to drinke: it wrought extremely downeward and upward within an hour after, and never ceased untill night: In the end the strength of the boy overcame the force of the Physicke, it gave over working and the lad lost his ague; since which time (as he saith) he hath cured with the same medicine many of the like maladie, having ever great regard unto the quantity, which was the cause of the violent working in the first cure. By reason of which accident, that thing has been revealed unto posteritie, which heretofore was not so much as dreamed of. Whose blunt attempt may set an edge upon some sharper wit and greater judgement in the faculties of plants, to seek farther into their nature than any of the Antients have done: and none fitter than the learned Physitions of the Colledge of London; where are many singularly wel learned and experienced in naturall things."

ANSWERS TO CORRESPONDENTS

FRUIT GARDEN.

NETTING RASPBERRIES (*Leith*).—The half-inch square mesh nets supplied by Messrs. W. Oliver Allen, Porthleven, Cornwall, would answer the purpose quite satisfactorily. We have used this netting, and can recommend it with confidence. It is bound with cords, and may be had any length or breadth to order, which is a great convenience.

BLIGHTED CURRANT TREES (*A. W. N.*).—As the fruit of the Currants should soon be ripe, it will not do to spray the bushes with an insecticide, because the leaves cannot be effectively sprayed without spraying the fruit also. The better way will be to gather the fruit first, and then give the bushes a dressing of Bordeaux mixture in order to kill the fungoid disease from which they are suffering. It will be well to burn all the leaves as they fall, in order to try to stamp out the disease.

A BOOK ON THE THINNING OF THE CROPS OF APPLES (*F. W. B.*).—There is no book we know of which specially deals with the thinning of Apples. A useful book on hardy fruits which deals largely with the Apple is that of "Fruit Farming for Profit," by George Bunyard, now in its sixth edition, price 2s. 9d., to be had from 41, Wellington Street, Covent Garden, W.C. It would be advisable to leave the strong, thick-stemmed Apples in the centre of the trusses, as in all probability they will grow into fine specimens.

MONKS' RHUBARB. AN OLD MEDICINAL PLANT.

GREENGAGE TREE DROPPING ITS FRUIT (*J. M.*).—This is due to the flowers not having been properly fertilised; that is to say, there was no seed formed in the fruit. In the absence of this it is impossible for the fruit to grow and mature. Perhaps your tree is growing in poor soil and has been suffering occasionally from the want of water at the roots, and also, maybe, from the want of summer pruning. Take special note of our weekly calendar, and you will find seasonable notes bearing on this subject and others on fruit trees which may interest you. Sometimes the failure is caused by too strong growths. Perhaps you will let us have particulars of the growth of your tree, when we shall be glad to do the best we can for you.

REMOVING A NINE YEAR OLD APPLE TREE (*J. E. H.*).—The expense of moving such a tree would be considerable, as the work would have to be undertaken by an expert to be a success, and even then success could not be guaranteed. If you have decided to remove the tree in any case, the experiment might be tried if you do not mind the expense. Success may result. The best time for moving it will be as soon as its leaves have fallen. Dig a trench round the tree at a distance of 3 feet from its stem. The trench should be 15 inches wide and 2½ feet deep. Cut all the roots with which you come in contact close to the wall of the trench next the tree, then fork away the surface crust of soil on the top of the roots, and carry the tree carefully, with all the soil possible attached to its roots, to where you wish to plant it. The hole for its reception must be large enough to accommodate the roots being laid out their full length, and prepared before the tree is lifted. Add a bushel of new turfy soil at the time of planting, also a gallon of lime and a quart of bone-meal to the soil of the tree. In planting, work the soil well in among the roots with the hands and press firmly down. Fill the hole with soil and tread firmly down, staking the tree, and giving it a good watering afterwards. Prune the branches of the tree rather severely at the same time as the roots are pruned.

SUMMER PRUNING OF FRUIT TREES (*Newlands*).—Some fruit-growers claim an advantage in simply breaking the foreright or side shoots and allowing them to hang thus on the trees. So far as our experience teaches us, the advantage is more imaginary than real. Now is a good time to summer prune wall trees, including Pears, Apricots, Plums and Cherries, also. Peaches and Nectarines. In the case of all the above, with the exception of Peaches and Nectarines, the way to proceed is to cut back all side shoots, the strongest to within five buds of their base, and those not so strong to within four buds of their base, the same shoots at the winter pruning to be still further shortened, the one to within two buds of its base, and the other to within three buds (the latter, of course, are the stronger shoots). The terminal or leading shoot at the end of the main branches should not be summer pruned. In the case of the Peach and the Nectarine, the summer pruning of these consists in removing an occasional shoot of this year's growth where it is found that such shoots are too close together, and also in removing all young shoots which grow out of the young shoots of this year's growth.

KITCHEN GARDEN.

THE SPRAYING OF POTATOES (*Newlands*).—Yes; the whole of the haulm of the Potatoes must be sprayed, including the top and under side of the leaves and stems.

BEAN CANADIAN WONDER FOR WINTER USE (*G. G. W.*).—Bean Canadian Wonder is excluded among the Haricots in France. We have not tried this variety in this way, but if it has been well grown and fully ripened it would be equally suited for use in winter in a dried condition as are the others, although white seeds are preferred.

AUTUMN-SOWN ONIONS GOING TO SEED (*Torquay*).—These Onions have had a long season's growth (from August to July). They are ripe for pulling up at this time and for harvesting and putting by for present use, because they will not keep so long as summer-sown ones. The cause of their bolting to seed is because they are making a second growth, and the nature of the second growth in such cases is for the plants to throw up their flower-stems in order to produce seeds. Cut off the flower-stems as soon as they appear.

SPRAYING POTATOES WITH A SYRINGE (*H. M. C.*).—A knapsack sprayer is far more convenient for spraying Potatoes than a syringe; but if only a small area is to be sprayed, a syringe, if fitted with a *very* fine nozzle and with a bend in the tube so that the under side of the leaf is reached by the spray, may be used. About a gallon of spray is required for a rod if the Potatoes are well grown, but less if only partly grown. Early Potatoes need not be sprayed, but later ones should be sprayed during the first week in July, and again three weeks later if the disease appears.

MISCELLANEOUS.

BOOK ON SEED-GROWING (*E. A. W.*).—There is no book dealing specifically with seed-growing, but you will find some information on the subject in the "Gardeners' Assistant," published by Longmans.

POT-POURRI (*W. V. S.*).—The best pot-pourri is made by the moist process. The chief ingredient is Rose petals. They are half dried to a tough, leathery consistency and packed into jars, with a handful of bay salt and common salt mixed, to each three handfuls of petals. It should be kept weighted down in the jars, and remains in them till the autumn mixing. Sweet Geranium leaves are also dried in the same way and salted. Bay leaves and Lavender are salted down in the jars without first drying. When all is complete, the contents of the jars are broken up and mixed with ground spices—Cloves, Mace, Allspice, &c. Similar enquiries have been received from other readers and we hope to give a more detailed account of the making of pot-pourri a little later.

NAMES OF PLANTS.—*L. B.* Lilium monadelphum. A note on this species will appear shortly.——*G. H. L.*—Lysimachia vulgaris (common Loosestrife).——*Boris.*—Erica ciliaris var. Maweana, the Portuguese form of E. ciliaris. ——*M. E. T., Forres.*—Exochorda grandiflora. A coloured plate appeared in THE GARDEN of February 24, 1877.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

ASSOCIATED with the fortnightly meeting of the above-named society on July 17 at the Drill Hall, Buckingham Gate, S.W., were the exhibits of new seedling Roses, under the auspices of the National Rose Society, and the annual exhibition of the National Carnation and Picotee Society (Southern Section), the whole contributing to a show of considerable variety and excellence. A report on the Carnations, by Mr. J. L. Gibson, will appear in our next issue. From the spectacular standpoint the greater displays were the banks of Roses from leading growers and the superb collection of Sweet Peas from Shrewsbury, which deservedly secured a gold medal. Equally good and well merited was the gold medal collection of vegetables presented by Messrs. Barr and Sons, and rarely has finer produce been staged. For the rest there were Carnations and shrubs, Ferns and hardy plants; everything, indeed, that goes to make the garden and greenhouse gay at this season of the year.

VEGETABLES AND FRUIT.

The gold medal collection of vegetables staged by Messrs. Barr and Sons, Covent Garden, was of that high-class character which attracts everyone even in normal times. To-day such an exhibit possesses an enhanced value, impelling admiration by reason of the superb quality of the produce and its picture-making effect as a whole, while demonstrating the possibilities of cultivation and the infinite variety available where the highest skill and intelligence go hand in hand. In all there were some sixty-five dishes arranged, the background comprising pyramids of Broccoli, such excellent Cabbages as Ellam's Early Dwarf and Standard Bearer, and Aldenham Pink Celery. These last for mid-July were of exceptional quality. Peas Duke of Albany, Quite Content, Alderman and others were each represented by splendid gatherings, though even more attractive were the Tomatoes, of which Peachblow, Golden Jubilee, Froxfield Red and Golden Sunrise were among the more conspicuous. The dwarf Golden Butter Bean also afforded a touch of colour; and of another type the Carrots, of which we noted Early Scarlet Horn, James' Intermediate, and Stump-Rooted Scarlet. These from Perfection's standpoint vied with the Potatoes, magnificent baskets of Duke of York, May Queen, King Edward, Midlothian Early, Yeoman (purple-eyed) and Exhibition Red being staged. Onions, Vegetable Marrows, Cucumbers and French and Broad Beans, among others, contributed their quota, adding variety and sustaining the excellence of the whole.

SWEET PEAS.

Quantities of these popular flowers were on view, none, however, to equal the magnificent collection shown by Mr. W. H. Holloway, Port Hill Gardens, Shrewsbury, and which deservedly gained a gold medal. Not merely an outstanding feature in an exhibition full of attractions, it was without doubt the finest exhibit of the kind seen in the South this year, the great stands being filled with flowers that were practically without a blemish. From out of a large array of first-rate sorts we selected Beryl (salmon), Hope (cerise scarlet), Victory (lavender), Charity (crimson), Adelaide (violet and purple), John Porter (salmon with orange), Jean Ireland (cream and pink) and Lord Fisher (maroon), a set, we believe, that would satisfy almost any lover of the flower. These flowers were also well shown by Messrs. Piper, Bayswater, Crimson Queen, Victory, Prince Albert, Mavis and General Townsend being among important novelties.

ROSES.

Half a dozen leading growers staged big collections of these, our regret being that the exigencies of space preclude our dealing with the whole in detail. Of more than ordinary merit, however, was the big bank arranged by Mr. Elisha J. Hicks, Twyford, in whose group Red Letter Day was the most brilliant variety in the whole show. Of equal import was the single pink Queen of the Belgians. It is large, very free, and of a delightful colour tone. Iona Herdman (yellow), Mrs. F. Dennison (creamy), Charles E. Shea, Rayon d'Or, Ophelia (cream and blush) and Princess Mary were other good things in a most attractive lot. Mr. Walter Easlea, Eastwood, Leigh-on-Sea, showed, among others, Tim Page, a golden Pernetiana, and the dwarf-growing white Polyantha Little Meg. Dr. Joseph Drew and Lamia were others of note. In a big lot from Messrs. W. and J. Brown, Stamford, Mrs. H. Stevens, Ulster Gem, and Duchess of Wellington were noted. In that from Messrs. B. R. Cant and Sons, Colchester, Golden Ophelia, Red Letter Day and Sovereign (rich orange Pernetiana) were good things; Messrs. William Paul and Son showing Waltham Scarlet (single), Louise Crette (grand white) and the fragrant W. C. Clark among many. From Messrs. R. Harkness and Co., Hitchin, Florence Forrester, a magnificent white Rose, was very fine. Duchess of Westminster (pink), A. Hardman (red) and Marquis de Ganay (pale pink) were also good. The most striking variety, however, was American Pillar, a great background of this being very fine. The finer stands from Messrs. Frank Cant and Co., Colchester, were the very dark Château de Clos Vougeot, H. E. Richardson (deep velvety maroon), British Queen (white), Mrs. C. E. Pearson (refined salmon) and the deep cream Perle von Godesberg.

HARDY FLOWERS.

The Alder River Nursery, Iver Heath, Bucks, again contributed a lovely lot of choice, well-grown Lilies, examples that should do much to extend the cultivation of this unique race of bulbous plants. To such good things as Humboldtii magnificum, regale (a grand lot), the unique Willmottiæ with its wondrous array of orange scarlet flowers, the dusky dalmaticum and towering stems of giganteum must be added that best of all trumpet Lilies, L. Brownii, of which many yard-high examples were shown—the finest lot of the true plant seen for many a day. Delphiniums from Messrs. Blackmore and Langdon, Bath, were very fine. Lord Lansdowne (deep blue), Chantry Queen (deep lavender), Lavanda (rosy lavender), Daniel Osiris (dark blue), Sergeant Béranger (mauve) and Harry Smetham (rich porcelain blue) were some in an extremely rich collection. Notospartium Carmichaeliæ, with a shroud of pinky blossoms, and Plagianthus Lyalli var. glabrata (white) were contributed by Messrs. Robert Veitch and Sons, Exeter.

NEW AND RARE PLANTS.

AWARDS OF MERIT.

Rose Sunstar (H.T.).—A pleasing variety of salmon red tone with rich orange-coloured base to the petals. It is recommended for bedding and decoration and is perpetual flowering.

Rose Irish Afterglow.—A single Hybrid Tea variety of salmon red colour. The dark foliage is in good contrast. These two were shown by Messrs. Alex. Dickson and Sons, Newtownards.

Sambucus racemosa plumosa tenuifolia.—A most remarkable Elder that out of flower and fruit might easily be mistaken for a fine cut-leaved Acer. Of small tree or bush habit, its finely plumose character renders it highly attractive, its good effect much enhanced by the abundance of axillary clusters of almost coral red fruits. From Messrs. G. Paul and Son, Old Nurseries, Cheshunt.

*** *The Yearly Subscription to* THE GARDEN *is: Inland*, 10*s.* 10*d.*; *Foreign*, 13*s.*

PEARSON'S RELIABLE BULBS

There is every sign of Bulbs being very scarce this season, owing to the prohibition of foreign produce.

We hold a fine stock of **HOME GROWN DAFFODILS, May-flowering TULIPS, SCILLAS, CHIONODOXAS,** etc. By purchasing Home Grown Bulbs you will support an important and growing home industry.

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J. R. PEARSON & SONS

Estab. 1782. **The Nurseries, Lowdham, Notts.**

FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

IN looking over my correspondence from readers of THE GARDEN received during the past week, there are several matters raised therein upon which I am here tempted to write.

Value of Charcoal.—My notes on the digestive organs of the laying hen as appearing in the July 7 issue brought along many interesting letters. Among these there were quite a number of requests for more particulars. There are several ways of strengthening the digestive organs or keeping them in working order, one of the best plans being to see that every hen has a daily supply of charcoal. Compaction of the crop and gizzard is quite common, and while it may be put right within a reasonable time, success in treatment depends upon keeping the digestive organs sweet. When compaction sets in, the crop or gizzard becomes full of food, and if the latter is not passed on it goes sour and poisons the bird. The liver is the first thing to be affected, but this can be tuned up to concert pitch quite readily by a course of Glauber's salt as already outlined in my earlier articles.

Sweetening the Organs.—The poultry-keeper, however, will have to give his attention to two things in curing compaction of the digestive organs. First, he must reduce the rations to give the food in the digestive organs the chance to pass on; and, secondly, he must protect the food that is there from sourness. For the latter purpose there is nothing to excel charcoal, which has the excellent properties of sweetening the crop, gizzard and intestines and removing any trace of sourness. Charcoal is prepared in two forms, viz., fine and coarse, and it matters not which is chosen for use. Where the powdered form is adopted, it is customary to mix it with the soft mash; but with the coarse brand it is placed in a hopper or receptacle and kept always before the fowls. It is treated just like grit or shell.

Corrects Bad Feeding.—Poor egg-supplies can, in the majority of cases, be traced to bad feeding or improper digestion, and that is why I so strongly recommend charcoal. It is a splendid corrective of bad feeding and poor digestion, and should be given daily. The fowls when they get accustomed to this material eagerly partake of it, as the dog when ailing resorts to tender blades of grass. When anything is wrong with the methods of feeding or the digestive organs get out of gear, the disadvantage lies in the fact that symptoms do not make themselves apparent in the early stages. If this were so, the feeder would have an opportunity of setting things in order. The unfortunate part is that when the damage has been done the symptoms are noticed. By giving charcoal constantly the poultry-keeper is able to check bad feeding and correct digestive disorders.

Palm Kernel Meal.—One reader asks me to tell him exactly what palm kernel meal is. It is a product of our West African possessions, the nut-kernels being crushed by various methods and the oil extracted for numerous commercial purposes. The meal is the residue. The oil is used extensively in the making of soaps, candles, margarine and cooking fats. In pre-war days Britain made the great mistake of allowing Germany to procure the kernels. The Germans extracted the oil and sold it to us—the usual roundabout pre-war way of doing things—but they retained the meal and residue for feeding their livestock. In pre-war days palm kernel meal was fed extensively to farm cattle, but Biddy did not call upon the supplies. Now, however, with the trade in the nut-kernels diverted to this country, the poultry-keeper should make full use of this meal.

Introducing New Foods.—From now onwards there will be plenty of palm kernel meal available, and the growing stock should be brought up accustomed to it, so that it can be included in their dietary after maturity is reached. The meal can represent a third or a half of the mash, but it is wise, as with all newly introduced foodstuffs, to commence with a small percentage and gradually increase the amount. When used in the soft food it should be well scalded prior to being dried off, and it is surprising what a nice crumbly mash is prepared when it is included therein. There is a great advantage, too, from the economical point of view, as the meal, when properly prepared, swells to many times its original bulk. It can be used in both wet and dry mashes. This is one of the "war" poultry foods which will remain with us after the close of hostilities.

Conveying Preserved Eggs.—Another reader, residing at New Barnet, raises a very important matter. He writes:

> "Would you kindly advise me how to convey some eighteen dozen eggs, which I have saved and pickled in water-glass, across London?"

In the near past I have been surprised at the number of times I have been asked for advice on this question. There are two methods I have found to be reliable. If plenty of soft material were packed round the sides and bottom of the preserving receptacle, and the eggs closely packed and covered over with a good depth of soft material, they could be left in the preservative and conveyed in this way. The success of the operation would naturally depend upon the mode of transit selected. A better way is to wrap each egg singly in a piece of thin unprinted paper that has been dipped into the preservative and then add a further wrapper of paper, screwing it at each end of the egg. Packed in a box with a good bottom of hay and alternate layers of eggs and hay, and a good depth of the latter as a top covering, the eggs should be safe. At the other end they can be unwrapped and returned to the preservative. With most preservatives the process of preserving is complete through the closing up of the pores in the egg-shells, which prevents any air from entering the eggs. This is not generally known; hence the doubt thrown upon transit. After the operation an egg can be taken out and tested each week if desired to make sure all is well.

Automatic Feeders.—I have been busy working out plans for a reader of THE GARDEN who is a confirmed invalid. In her first letter she wrote:

> "I am a confirmed invalid, and my poultry are a source of great pleasure to me in the good seasons. My greatest difficulty will be during the winter, as last winter I was confined to my room on and off."

I have suggested that she should adopt the dry-mash system of feeding in conjunction with automatic feeders to provide the grain. Automatic feeding appliances are very ingenious inventions The body of the feeder is filled with grain and the fowls work the appliance themselves. Below the feeder there is a kind of bar which is filled with grain and acts as the "bait." The fowls cannot obtain the corn in the bait-receptacle, but in their endeavour to get it out they work the machine. As the bait-receptacle—hung on a pivot—is moved, a shower of grain from the body of the feeder descends and, falling upon a deflector, it is scattered broadcast over the ground beneath. It stands upon a tripod, and is placed on the floor of the house or scratching shed so that the grain will be scattered among the litter.

Economy in Grain.—One great advantage of using these automatic feeders is in the saving of the grain and the natural method of feeding provided for the fowls. There can be no gorging, as the fowls have to work for every grain eaten, and, what is more, scratch for it. Digestion is greatly aided, as the fowls first work the "oracle" and then forage for their grain, and have to repeat the operations continually. Only a sprinkling of grain is released each time, and if a large appliance is in use the hopper needs replenishing but once a week, according to the number of birds kept. Of course, several of the appliances can be placed in each house if desired, and the feeders are just as useful in the open field as in the backyard run or scratching shed.

Rats and Sparrows.—Where these automatic feeders are in use rats and sparrows will not be encouraged, as at no time is the litter full of grain, which is usually the case with hand feeding of grain. Rats and sparrows not only rob the birds of their grain, but also increase the owner's outlay for foodstuffs. Thirty sparrows will eat ten bushels of corn in a year.

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Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C. 2.

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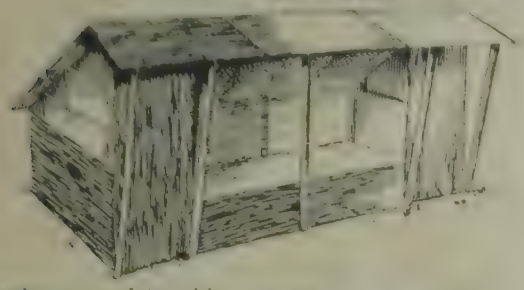

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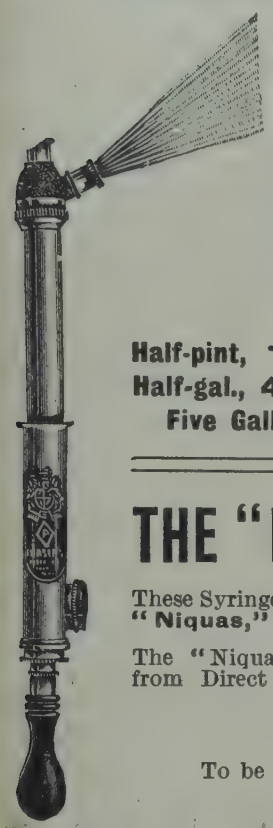

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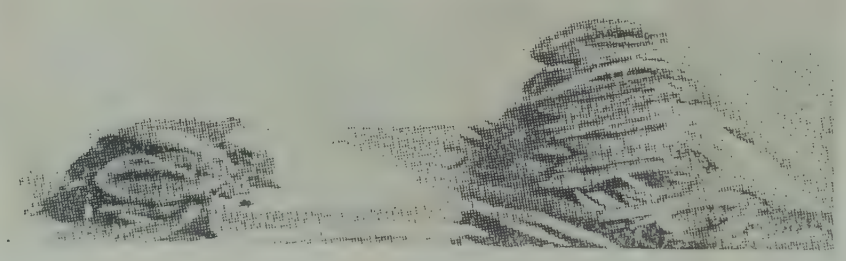

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THE GARDEN

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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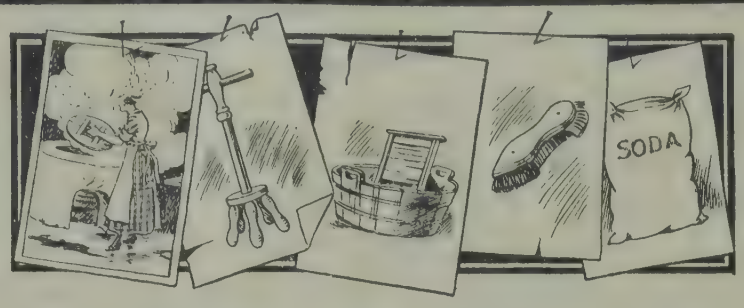

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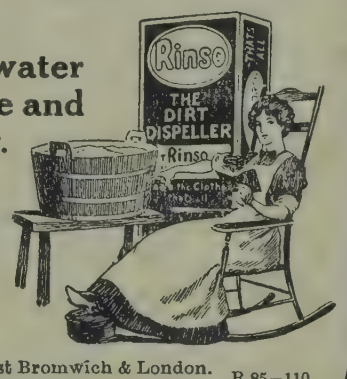

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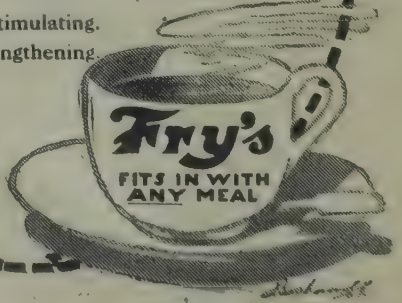

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—EDEN PHILLPOTTS in *Country Life*, June 24th, 1917.

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THE GARDEN.

No. 2385.—Vol. LXXXI.] [August 4, 1917.

NOTES OF THE WEEK

While most fruit-growers are agreed that this is *the* time to prune Raspberries, not one in ten gives a thought to the pruning of Black Currants at this season. And yet the mode of fruiting is much the same. In both cases it is the young growth made this year from which we may expect next year's fruit. Therefore do not postpone the pruning a day longer than is necessary, but proceed to cut away the old wood, allowing as much light, air and room as possible for the development and ripening of the young growth which is to carry the crop next year.

A Chinese Privet.—Ligustrum lucidum is one of the most ornamental of the Privets and one of the largest growing. In China it forms a tree of considerable size, and is of importance by reason of its being the host plant for an insect that secretes a waxy substance. This wax is collected and used in the manufacture of candles, &c. It is an evergreen with dark green, oval leaves 4 inches or 5 inches long and 2 inches wide. In August and September large terminal, erect inflorescences of creamy white flowers are borne, which are effective for several weeks. Planted in ordinary loamy soil it grows rapidly, forming a shapely bush 16 feet or more high, with a wide spread. As it is quite hardy, it can be grown in many parts of the country, and is useful as a change among other evergreens. Cuttings inserted in sandy soil indoors in July root without trouble.

Scarlet Runners Come to Their Own Again.—We recently read a short article in one of the gardening papers advocating the planting of certain vegetables for ornament in what, in normal times, used to be the flower garden. Included in the list of appropriate plants were Runner Beans, if topped and the pods kept closely picked. This is but a return to their ancient heritage. When "J. W., *Gent:*" lived and wrote—that is, in the middle and second half of the seventeenth century—the flower garden was their accustomed home equally with the vegetable garden. In this author's comprehensive manual, "Systema Horticulturæ," among the list of flower seeds sold by Edward Fuller at the Three Crowns and Naked Boy at Strand Bridge near the May-Pole are Scarlet Beans; and in the chapter on "Flowers Raised Only from Seed" we read "There is a sort of Kidney Bean that yields a fine scarlet Blossom for which it is esteemed." Let us hope that in their restoration they only become swollen through good cultivation and not with pride.

Change of Colour in a White Currant.—Dr. Walter Dick has recently drawn attention to the complete reversion of a White Currant planted against a wall at Great Massingham, King's Lynn, to a red form. For two years prior to the present the plant bore White Currants, but this season all on the bush are red, and ripe ten days earlier than those on other bushes in the garden.

An Effective Vase Combination.—It sometimes occurs that after gathering flowers just as they happen to come in the garden the chance resultant bunch reveals quite unexpected harmonies or contrasts which no one would probably ever have thought of in cold blood. Rose Alfred Colomb and Spiræa palmata is not a combination that would be likely to be evolved out of a person's head; but a haphazard association in a bunch of flowers just cut and carelessly thrown together revealed suddenly the beauty and effectiveness of the blend. The rose reds of the two were so very near akin, and the contrast of their shapes and styles so striking, that they made an uncommon and pleasing picture when they were judiciously arranged in a vase.

AN EDGING OF DWARF LAVENDER.

Ants and Lilium regale.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Bowles showed a bud of Lilium regale and read the following note: "A group of this growing in a garden at Norwich has been attacked by ants. The owner of the garden has watched the ants at work on the unopened buds, and seen them carry away particles of greenish matter that they have apparently extracted from the flower. They confine their attention in the first place to those portions of the flower that are coloured with the chocolate-brown that comes on regale in its early stages. The first effect that is apparent is that the chocolate disappears in patches. As the flowers develop, the portions attacked begin to decay, and, naturally, spoil the flower. So far as can be ascertained, no other variety of Lily growing in the neighbourhood has been touched, which would make it appear as though L. regale possesses some particular attraction for the pests. It is necessary to find some remedy for this, as the attacks of the ants are so persistent that a fine group of this beautiful Lily has been ruined within the course of a fortnight." It is probable that a disc of cardboard covered with tanglefoot fixed round the stem some little distance from the ground would prevent the ants from reaching the flowers.

Dwarf Lavender.—Anything that prolongs the season of Lavender is a gain in garden enjoyment, and as the ordinary forms are not at their flowering best till the first week of August, this early dwarf kind is a precious plant, coming into flower from the second week of July. The whole plant has a good, compact habit, the flower-stem is short and the bloom blunt and wide, with the individual flowers set densely on the spike. The colour is a rich purple and the scent is even stronger than that of the ordinary Lavender.

White Lavender.—While the common Lavender in many forms is grown extensively, the white variety is only occasionally seen. On a suitable soil that is light and not too rich it flowers quite as freely as our old favourite and is also fragrant, while its paleness makes a pleasant change. We do not know of a dwarf white Lavender, but with us it does not grow so vigorously as the type, so is eminently suited for planting as a low in ormal hedge. It is very effective in the mixed flower border, particularly near to mauve and blue coloured flowers, but should never be placed by the side of pure white, for then the Lavender flowers appear to be slightly stained.

A Plea for Lavender.—Lavender Days are being arranged all over the kingdom to sell Lavender for the Auxiliary Maintenance Fund for the Y.M.C.A. Huts and Miss Lena Ashwell's "Concerts at the Front." The dates in the various counties will be decided by the time the Lavender flowers. Everyone who has Lavender growing in their gardens is asked to send some to the Hon. Treasurer, the Right Hon. Lord Arthur Hill, 101, New Bond Street, W., who will gratefully receive any quantity and promises of a future supply.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

THE DUNWICH ROSE.

THIS Rose, mentioned on page 281, issue July 21, is Rosa spinosissima. I published a note upon it in the *Journal of Botany* some years back, but regret that I cannot put my hand on the reference.—JAMES BRITTEN.

FRAGRANT MUSK IN THE SIERRA NEVADA MOUNTAINS.

MANY years ago I was for a short time up in the Sierra Nevada Mountains in Southern California, and found the common Musk and other of the larger Mimuli abundant in wet spots. I also found, what is well known in that part, at any rate, that only some plants of Mimulus moschata in the native state are scented, and that most are not scented. There are all stages between scentless and strongly scented, but strongly scented is the exception. I have had the common Musk growing in a low, shaded place in the garden, where it has been taking care of itself entirely, except for weeding, and it seems as sweet as it ever was, but, of course, is not reproducing itself from seed. Did it do so, I have no doubt it would revert to the scentless, wild form, as I believe that predominates. I think any residents in Fresno City, Fresno County, California, who visit the mountains would confirm what I say.—A. ALLINAR, *Letham, Wanganui, New Zealand, May* 30, 1917.

A BATTLEFIELD OF A YEAR AGO.

I HAVE just travelled up the line again for the second time. I am not so very far away from the spot where I was last time, but the change that has happened since I left the line towards the end of last year has impressed me very much. I have crossed the old battlefield of a year ago—the ground that we were fighting for so hard—and it is unrecognisable from what it was as I saw it last. Nature has exerted her very utmost to cover up all the terrible havoc that has been done, and it is now a most beautiful garden. It is absolutely covered with flowers as far as the eye can reach, and the effect is most pleasing. The banks of the old trenches are covered with white Dog Daisies, and the vivid red of great patches of Poppies has a splendid effect. There are thousands of beautiful mauve Sweet Scabious, and pink and mauve double Poppies. The loveliest flower to be seen, however, is the Cornflower. It is such a rich, intense blue; there are whole fields of it, and the sight is most glorious. There are some tall yellow flowers, very much like Mustard, and the reddish brown seed of the Dock plant adds to the effect. Here and there are large pools of water, caused by the shell holes. The trees, too, that were blown to bits have thrown out shoots to cover up the ugly stumps. The unlevel nature of the ground adds a great deal to the beauty of the scene; truly a most lovely wild garden. Last year it was a horrible inferno; this year a veritable paradise. It proves what the Great Gardener can do.—23004 Private A. SPECK, *British Expeditionary Force.*

SWEET PEAS.

I MUST take exception to "Anne Amateur's" reference to the gawky giant, grotesque deformities which have usurped her loved and lamented shapely, and fragrant Sweet Peas. Surely she will be aware that the great deformities are solely the result of cultivation. I could easily demonstrate to her that the dear old grandifloras could be altered out of recognition so far as colour, spacing and stem are concerned, and I am sure she would not like them. Grow the Spencer varieties in a natural way without over-feeding and disbudding, and one will get flowers that ninety-nine people out of every hundred will admit are far more dainty than the grandifloras grown in the same way. "Anne Amateur" admits she is old-fashioned, but she surely must realise that modern folk are apt to favour modern flowers, and, taking them as a whole, I think the modern varieties of flowers are an advance in many directions. True, scent may be lacking, but one cannot have it all ways, and, after all, I am not so sure that all modern flowers lack the perfume of their forbears. There are many beautifully scented new Roses; did not our esteemed friend the Rev. J. Jacob record that the most powerfully scented Sweet Pea was Moneymaker—perhaps the most vigorous and long-stemmed of all the gawky deformities? No; my "dear lady," Sweet Peas are not on the wane because of their gawkiness—the cut-flower trade tells us that—but largely owing to the disease that has followed in the wake of super-culture. Incidentally, too, three years of war have affected the Sweet Pea, as they have other flowers. When the beastly business is over, those of us who are left will, I trow, get back to the beloved flowers of our fancy. Only a few days since, when I chanced to drop in at the Royal Horticultural Society's show, I met one of my Carnation Society members perambulating in hospital uniform. Shrapnel had done its best (or worst) to cut away his backbone, and for seven months he had lain in hospital; but it was not that he wanted to talk about, but Carnations—the new range of glass his old employer was putting up for his use as soon as his services were again available. Again I say no; the craze for Sweet Peas and other modern flowers is not over; we are simply biding our time. Personally, I am happier than some, for I am, with our O.C.'s permission, devoting all my spare time to making our camp a flower garden, through the good assistance of several nurserymen friends. Since mid-June I have been cutting some excellent Sweet Peas, sown in mid-April—exactly two months—and not gawky deformities. But this apparent precocity is due to the fact that they are all new, early flowering Spencer varieties; and, incidentally, I may add that these new-comers will open a new era for Sweet Peas, for already there are pink, rose, crimson, white, cream and other shades available, and, let me add, they have a fair amount of perfume.—T. A. W.

YOUNG GOURDS IN THE SOUTH BORDER.

THE SOUTH BORDER FOR UTILITY.

THE main hardy flower border is now bearing a crop of Potatoes, only some Yuccas and a few other permanent plants remaining in their places. But in order that it may not be entirely without garden interest, the extreme front edge is sown with Pot Marigold, whose dried petals have an economic value; and at intervals it has some plants of the great Gourd, the Potiron Rouge of the French. These are also planted near the edge of the border; they will trail across the path and then turn, still upon the path, towards the sun. The logs of Birch are placed to protect the tender tips of the vines as they grow; but when the Gourds have taken up the whole width of the path, a short length of board will be nailed from log to log to form a bridge for safe passage.—G. J.

THE BEAUTIFUL OLD-FASHIONED RHODANTHES.

THESE are among the prettiest and most delightful of flowers arranged in a small vase. Nothing is more charming than Rhodanthes for such a purpose, either when freshly gathered in summer or when kept hung up in any room or closet out of the sun and used in winter. In my estimation they are figuratively Sauls among their everlasting brethren, head and shoulders above them all. Yet how seldom are they seen nowadays, either in the once popular small pots or in vases. Talking about Rhodanthes to a friend, he said he thought they were a bit tricky to manage. As far as my experience goes, their cultivation seems to be simplicity itself. Use any decent garden soil. Sow thinly either in pots (if such are required) or in pans for cutting. Allow the plants to be a little "drawn." The wiry stems will stand it all right, and their lengthening adds considerably to their utility. Shade the flowers from burning sun, and cut them—more

particularly if for winter use—before they are too much open. There are three varieties in commerce, e.g., (1) maculata, rose pink with large yellow centre; (2) Mauglesii, the same, but with a deep crimson zone round the disc; and (3) alba, white in the place of rose pink. Personally, my decided preference is for a mixture of the first and second; but then I do not think I am a lover of white flowers. At least, such is my present mood. Probably all of us are much of a muchness in this. We do not always like to-day exactly what we did five years ago. No; we are not fickle, only natural and healthy.—JOSEPH JACOB.

TOMATOES AND POTATO DISEASE.

SOMEONE has misinformed Colonel H. Malet. There is no such thing as a seed Potato that will produce Tomatoes as a top crop. As the Editor states (issue July 14, page 269) it can be done by grafting, and Burbank tried it years ago, but the produce neither of top nor bottom is affected. Put plainly, the tubers produced on the so-called Tomato will, if planted, only produce Potatoes, while the seed saved from the top fruits will merely produce Tomatoes. The story of cross-breeding and the rest of it is all a myth. Actually, on the raiser's (?) own admission he was simply trying to get a disease-proof Potato, and to reach that pinnacle of fame he grafted the Tomato on to the Potato, the former, by the way, a plant more susceptible to diseases galore than the Potato.—T. A. W.

POTATO DUNNOTTAR CASTLE.

I HAVE tested many varieties of early Potatoes this season for their cooking qualities, and have no hesitation in saying the above is much the best in point of flavour, mealiness in cooking as well as whiteness of flesh, and, what is of importance, it crops well.—E. M.

NEW POTATOES AT CHRISTMAS.

IN addition to my previous notes regarding "New Potatoes at Christmas," I would advise those interested in late Potato planting not to delay a moment, but to at once select some sheltered ground facing south and protected as much as possible from the north-east wind. Turn well over and loosen the earth with the usual garden fork, and, once the drill or allotted spot is ready, slightly manure with fresh stable refuse (if obtainable), plant a whole seed Potato of *last year* at least 7 inches deep, and cover with loose soil. On the appearance of the plant above the surface, slightly press down carefully all sides within 2 inches to 3 inches of the growth, and cover the whole to a depth of 2 inches to 3 inches, raising in the centre with loose earth other than that about the plant, so that the tuber root may have all the earth protection it can get against prospective frost. On the appearance of frost, cover the whole plant with a layer of stable straw bedding or other suitable material to protect the developing Potatoes maturing below ground from being affected, when all will go well and the result amply repay the labour. Do not dig for Potatoes until two days before Christmas, and then only lift what is actually required for use, taking care to protect the plant and its base next to that lifted.—JOSEPH R. HOLMES, *Bowmore*.

ANOTHER "WORD ABOUT WEEDS."

IN acknowledging E. T. Ellis' kind remarks in THE GARDEN (July 21, page 283) I am fain to confess my "hedge of sorts" is as yet by no means "all my fancy painted." It has suffered such a succession of cruel raids from animals (also "of sorts"), donkeys (my *own*, alas!), and sheep, bullocks and horses—horrid trespassers and greedy thieves!—that were I a "weepy" woman I should have been reduced to tears more than once. As it is, I began to count my hedge as one more of life's disillusions and disappointments. But at last the hedge is beginning to grow and go ahead, my hopes revive, and I plan to replace gaps and add fresh beauties to it this autumn, including a *few* conifers (*pace* "Hurstcot"). Now about weeds. I am glad E. T. Ellis has got so far as "real deep hoeing" to get *some* of the roots up, and raking to remove the hoed-up weeds. *That* is far more than most men do! My experience is that they generally merely dig weeds in

THE EARLY POTATO DUNNOTTAR CASTLE.

and make a deceitfully smooth surface above them, and in a short time the weeds come up smiling in a joyful resurrection. Some men make excuse that dug-in weeds enrich and improve the soil; but, surely, if removed and burnt they would be of more value for that purpose. For *real* weeding give me women workers on the land "every time," as our American friends say. Women weeders are more *radical*. They "go to the *root*," get it out, and "teach it never to come there no more," like Cowper's viper (which, by the way, was slain with a Dutch hoe). Women do not clear so—apparently—large a space in the same amount of time as men, but they do it *thoroughly*, with that "attention to detail" generally admitted as a feminine characteristic. (Is this "spirited" enough for Mr. Ellis?) I must say further there are no war allotments here. Most country cottagers have a little bit of ground, and I do what I can to help them by distributing first-class seeds and seedlings from time to time. (I am giving them hundreds of assorted "winter greenstuff" just now, as my seedlings came up splendidly.) It does seem such a pity to see poorer neighbours growing very inferior vegetables for want of opportunity to obtain better kinds; and first-class seedsmen (such as, ahem! "Messrs. Dot, Dash and Daughters," shall I call them?) mostly sell packets too large in quantity and far too expensive for cottagers.—ANNE AMATEUR.

JUNIPERUS NANA: A QUERY.

I SHOULD like to ask your contributor A. T. Johnson whether he has succeeded in inducing Juniperus nana to assume "the pyramidal shape" when brought into his garden? Many years ago I was informed that such was the case, but two small plants which I have in my garden, collected in County Mayo some ten years ago, have grown to a considerable size but remain quite prostrate, although under normal conditions. I have seen this little plant many times in a state of Nature growing in quite sheltered positions, but showing no tendency to grow upright.—A. W. STELFOX, *Bangor, County Down*.

"THE GARDENER, FLORIST AND AGRICULTURIST."

I AM interested in the enquiries respecting the publication bearing the above title. The Rev. J. Jacob's query is not before me, and I overlooked it when it appeared; but Mr. Mills' reply (THE GARDEN, July 21, page 281) has started me in the investigation. Kew possesses no copy, and Mr. S. A. Shan has so far not succeeded in finding a record of the work. Between, we will say, 1820 and 1850 the number of horticultural periodicals initiated was considerable. Some were short-lived, others reached a decent age; but there were changes in their titles and editors, which are somewhat perplexing and only intelligible on reference to the respective title-pages. During the long period that I had charge of the Kew Library I made special efforts, with the Director's approval, to fill up the gaps in periodical illustrated and other horticultural literature, and the collection now comprises most of the important ones, as well as the often rarer, though otherwise less important series. In 1845 *The United Gardeners and Land Stewards' Journal* was started under the editorship of R. Marnock. In form it is very similar to the *Gardeners' Chronicle* of that period, and, as an inducement to purchase, there is the statement on each number of the early volumes that the profits were to be devoted to the relief of aged and indigent gardeners and farm bailiffs, their widows and orphans. This promise seems to have been withdrawn in 1850. The last volume of this publication appeared in 1852; but this is, or was, wanting in the Kew set. The paper size of *The Gardener, Florist and Agriculturist* is not given by Mr. Mills, but the title covers the same subjects and the issues were within the same period. Was there any connection between the two publications? Sometimes there are secondary titles. I am too far from the centre to clear up this point.—W. BOTTING HEMSLEY, *Broadstairs*.

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NOTES ON CROPPING

SOME VEGETABLES TO BE SOWN AND PLANTED NOW FOR USE IN WINTER.

By L. M. Marshall.

Turnips.—A sowing of Turnips made now will provide a supply for winter and spring use. The yellow-fleshed varieties are best for this purpose, and include Golden Ball and Orange Jelly. If white varieties, such as Chirk Castle, Green-top Stone and Red-top Stone, are to be sown, it must be done at once. These crops may conveniently follow early Potatoes and early Peas. The haulm of the previous crop should be cleared, burnt, and the ashes thrown over the bed. I do not as a rule like burning Bean and Pea haulms, because, being leguminous crops, they help to enrich the soil if dug in or put to rot for conversion into manure. But if there is any suspicion of insects or disease being present, there should be no hesitation on this point, and everything consigned to the fire. Turnips like a rich, well-cultivated soil and a fine seed-bed. A soil that is too gross, however, is not very suitable to the crop, because it tends to produce rank growth of the top with a bulb of poor quality and flavour. If the soil is thought not to be hardly rich enough, a little basic slag and sulphate of ammonia (used separately) may be applied before sowing. The crop will succeed on a variety of soils, but a fine loam well supplied with lime suits it best. The trouble with heavy soil is the difficulty of obtaining a seed-bed with a fine friable surface, which is so essential. In all cases the ground must be well dug. Another point with regard to varieties. There are several tap-rooted sorts which do well on deep soils; Jersey Navet and Long White Horn are the best, and any gardener having the right kind of soil will do well to try them.

Broccoli.—The planting out of the main crop of Broccoli should be finished as soon as possible. Varieties planted now should produce crops from Christmas to June next year. Soil for this crop must be well manured and cultivated, but firm. Broccoli do not succeed well in a loose soil. It is not a good plan to set out the plants in their permanent quarters while they are small; allowing them to become strong plants of good size is altogether better. A good distance apart to set the plants is 2 feet each way. When once planted the hoe must be kept going continually, both for the sake of keeping down weeds and with the object of conserving moisture in the soil. Assuming this to have been done, one watering at the time of planting should be sufficient. Broccoli is a very important crop and one that the gardener cannot afford to dispense with.

Cabbage.—Successional sowings of seeds to secure plants for setting out later on to produce a good crop of Cabbage in spring should continue. Good varieties are April (Suttons), Early Market (Watkins and Simpson), Early Offenham, Ellam's Early, Flower of Spring, Harbinger, King of the Earlies and Selected Evesham. The cultivation of Cabbages and Onions has been discussed separately in previous articles. Early Savoys will need planting soon, and in August or September a sowing of Red Cabbage may be made.

Parsley.—Seeds of Parsley to stand the winter in the open should be sown at once, if this has not already been done. A situation affording some shelter in winter should be chosen. Too much seed should not be sown, neither should the plants be allowed to go unthinned. Very rich soil is necessary for a good crop, and it is better to sow the seed in drills rather than broadcast. Double-curled, Fern-leaved, Moss-curled and Plain-leaved are good varieties. A supply in midwinter can be secured by potting off some of the best specimens of last year's or this spring's plants in 7-inch to 9-inch pots, putting four to six plants in each. The pots should be placed in a shady position until the roots have got a hold of the soil, when they can be removed to an open situation and brought into the greenhouse in winter. Potting may be done in September.

Endive.—All seedlings of this must be planted out as fast as they become large enough. Plants should be dug up and not forcibly pulled to injure the roots, and continual growth must in no way be checked. Sowings may be made of Round-leaved Batavian and Hardy Winter Green-curled, or Batavian White and Green, Green-curled, Louviers Large Ruffee, and White-curled. Never sow seeds of Endive thickly, or the plants will not form hearts satisfactorily after being transplanted.

Further notes on the sowing and planting of vegetables for winter use will appear in the next issue. In the meantime I take this opportunity of reminding readers of the importance of sowing Onions at this season to stand the winter in open quarters.

THE ALDENHAM ONION PLANTATION IN JUNE, 1917.

SUMMER ONIONS

Unfortunately, in many districts I hear this crop is anything but a success. In many cases the crop has been practically destroyed by the dreaded Onion fly. Here we have a large bed which at the moment shows great promise. The plan we have adopted, and which, in my opinion, is by far the best, is to sow the seed thinly in boxes in early spring, raise the plants in cold frames, and plant out on well-prepared ground about the middle of April, allowing a distance of about 14 inches between the rows and from 4 inches to 6 inches from plant to plant. We have about twenty-seven rows, each 100 yards long. These were all planted by women who had not previously been accustomed to the work. I am glad to say there is scarcely a blank, and they should produce a heavy yield.

The advantage over sowing in the open is that the plants are seldom attacked by Onion fly, the bulbs ripen much earlier, are of better and more uniform size, their keeping qualities are much better, and the ground is thus cleared in good time for autumn cropping. The varieties I prefer for this treatment are Maincrop, James' Long Keeping, Walker's Exhibition and White Spanish.

Aldenham. Edwin Beckett.

GROWING MARROWS UP POLES

By CLARENCE PONTING.

THE picture of a gardener watering a wonderfully constructed bed of Vegetable Marrows, and evidently watering them with the sun upon them (?)—see issue July 7, page 261—makes the small gardener, who this year is especially restricted as to what he shall grow, somewhat envious.

It is a common impression that Vegetable Marrows can only be successfully grown upon beds made in the manner depicted in the before-mentioned illustration. Manure heaps are certainly a very sure method of producing a fine crop of Vegetable Marrows, but there is another method quite as successful and nothing like so expensive as the foregoing. It has also the decided advantage of taking up little room.

To me the one disadvantage of the trailing type of Marrow (and, in my opinion, this type is far superior to the "bush" kind)

is the room which it occupies. Under good cultivation a Vegetable Marrow plant of the trailing type will run some 20 feet if placed upon a manure heap.

This year, obeying the patriotic request to grow more Potatoes, I had no room to allow the usual space allotted to the Marrow-bed, and so had to resort to growing my single plant up a pole. The bed measures 4 feet square, and consists simply of the grass and soil which one annually obtains from edging the lawns with the turf edger. This turf was chopped into pieces the size of a cricket ball, thrown up into a heap, and then covered with 3 inches of potting soil, with which had been mixed half a pound of a compound manure to the barrow-load of soil. The plant was raised in a cold frame from seed sown in March, planted out the third week in May, and has now at the time of writing two fruits ready to cut, one well formed, and three just formed. The plant has just reached the top of the 10-feet pole, and will now have the point pinched out. All laterals were pinched off as soon as they formed, with the exception of one, which is trained along a wire which is used to support the "grass" of the Asparagus-bed. The top having been pinched out will cause laterals to appear all down the pole, and will be allowed to hang down until one or two fruits have set, when they in turn will be pinched and keep up a supply of fruits for as long as I shall want them.

The cultivation is simple, for, beyond tying the vine to the pole at about every foot interval, nothing further is required. Water is given twice a week to keep the growth steady.

I have seen it stated that Marrows do not fruit early unless the leader is pinched when about a foot long; but I have not proved this to be the case with my plants. The flowers form in an upright position, and after being fertilised either naturally or, in my case, artificially, gradually turn over and fruit in the position shown in the accompanying illustration. The weight of the fruit neither bends down nor breaks the vines, as might be expected.

As an example of what crops can be produced from a small space, I might add that on this 4-feet square of lawn edgings I have this Marrow plant, and behind this are two strong outdoor Tomato plants trained close to a south fence on canes and well set with fruit. On the right of the Marrow is a Ridge Cucumber plant, which is allowed to run in the alley way of the Asparagus-bed between a row of Savoy Cabbages. Most of these can be seen in the illustration.

A propos of Asparagus-beds, the difficulty of avoiding breakage of the "grass" after cutting is finished can be overcome by driving in a stout Fir post at each end of the bed and running two lines of wire along. These are fixed on hooks in the post, so that the wires can be easily removed when cutting the "grass." The wires are useful to run Marrows along, or might be used as a support for Runner Beans if one is restricted for room, pinching the Beans on reaching the top wire.

FRUIT AND FLOWER GARDEN NOTES

ON CLOTHING A PERGOLA WITH HARDY VINES, BLACKBERRIES AND ALLIED FRUITS, RUNNER BEANS AND VEGETABLE MARROWS.

By Mrs. C. W. Earle.

IN the prosperous years now gone by and the great fashion for gardening revived and, in fact, become a new art, The Garden published some very beautiful coloured prints of flowers and fruits. I kept them all and made countless screens and flower pictures, cutting them out and arranging them on white or coloured paper after the manner of the old Dutch flower pictures, masses of flowers coming out of impossibly small flower vases, which were painted in, standing on a table. The new hardy fruits were depicted and recommended at different times, but in my experience they have not made much headway. Pergolas of Roses and flower creepers are beautiful and common enough, but if I could begin again—which one never can—and I had room to build a really strong pergola with piers of broken bricks, stones and cement, I think something very beautiful might be planted for growing over it—fruit and vegetables which could hang down from the top beneath the leaves, hardy Vines, the Blackberries and the allied fruits, the best wild Blackberry, and the cut-leaved varieties called "American." I have the pictures still of the three best new kinds. The Loganberry has beautiful large red fruit, the new Hybrid Lowberry has very large black fruit, and the Laxtonberry has large Raspberry-coloured fruit. Another kind much recommended is Rubus phœnicolasius (Wineberry), the fruit round and bright scarlet, very juicy and of pleasant flavour, the foliage and stems covered with red bristles. This gives it a very distinct character and makes it a beautiful and unusual climber, even when not fruiting. The chief value of the Loganberry, besides being good in fruit salads, is for preserving and bottling. It combines, I am told, the richness of the Raspberry with an acid flavour which is most excellent. In these sugarless days it is well to remember to put a tablespoonful of salt to every pound of fruit; this enables one to preserve it with half a pound of sugar. I have always grown the wild Blackberry in my garden, also the cut-leaved American kind. The fruit is rather larger, but I do not think it has quite so good a flavour as that of our wild kind.

GROWING MARROWS UP POLES TO ECONOMISE SPACE.

Anyone living in the suburbs of large towns will find it necessary to have the wild Blackberry protected, as the fruits are picked very early and often unripe outside. I also grow a low-growing small fruit that comes in late in the autumn, called Strawberry-Raspberry, though it has nothing to do with either. I am told its real name is Rubus palmatus. It is beautiful to look at and cooks excellently with early Apples.

But to go back to the pergola. Two or three hardy Vines grow well and only want pruning; and all bare places might be filled up with the handsome annual climbing vegetables, such as Runner Beans, Ridge Cucumbers, Vegetable Marrows, and all the varieties of Ornamental Gourds, which are so pretty and bring the sunshine of summer into rooms in winter. Perhaps the reason they are so little grown is because in unfavourable summers they do not ripen sufficiently, and decay quickly. The following is an excellent recipe for keeping these decorative Gourds from decaying. Dry the fruits with a cloth, then pour over them, or let them stand in it for three or four seconds, a varnish made by dissolving gum mastic in methylated ether in the proportion of half an ounce of the mastic to three fluid ounces of ether. After doing this, hang them up or lay out the fruits to dry, and pour off the mixture and use it for other Gourds. It should be remembered that the ether is very volatile and also inflammable. I saw some Gourds last winter thus preserved, and they looked beautiful and as fresh as when gathered,

even the very small, unripe ones. The materials are not expensive.

My favourite autumn greenhouse flowering plants are the South African Nerines. They depend very much on just the right treatment. They like to be potbound, but this is the time to repot them in small pots, as they must have some nourishment after months of drying off.

AN UPLAND VALLEY

NOTES ON THE FLORA OF THE DRY SUNNY SLOPES OF THE MARITIME ALPS. ROSES THAT FLOURISH AND ROSES THAT FAIL.

By Edward H. Woodall.

THE vegetation of the Maritime Alps is strangely different to that of the Savoy or Swiss Alps, for the reason that the climate is so much drier and sunnier that a different type of plant prevails. Above the height of 6,000 feet many representatives of the alpine flora are to be found, but below that level there is little to remind one of northern and alpine types. It comes as a surprise to me to find no trace of any sort of Fern in the moist mountain gullies, even where there is a thick wood to shade them from the fierce sun power. Instead of Saxifrages everywhere, a fine-leaved white Flax (Linum) so closely mimics the Saxifrage with its white flowers that the eye is deceived, but it is only in the crannies of the rocks, high up, that the stiff plumes of the form of S. Cotyledon which is a native here are to be found. The pretty S. lantoscana prevails in one valley, and another form is found in a different district. Sedums, Brooms, Lavender, a great number of Vetches, Lathyrus, Ononis and Orobus abound, some of much beauty, particularly one thorny shrub with shining, stiff leaves and spikes of large, soft pink, Pea-shaped flowers that must long ago have proved itself unsuitable, or it would before now be in every bold rock garden; it is so ornamental. Pale pink in colour and with more elegant spikes of flower, the first impression is of a very fine bush of dwarf Snapdragon with shiny, serrated leaves, though really more elegant and ornamental. Orchises and Primulas can only be found in regular swamps where the summer drought does not touch them, and not one have I ever seen where the sun can exercise its power. There are some splendid examples of Orchis latifolia and conopsea, Habenaria and Epipactis, but all of quite different types to those in Savoy. Parasitic Orobanches are abundant, and one monster, with golden brown "fur" and brilliant deep crimson and blue lip, is quite a striking object among the Alders, Birches and Willows. Now and again one comes across a little garden of alpine flowers, washed down by the spring floods, that has taken root among the huge boulders of the wide torrent's bed; but for colour on the hillsides, only Labiates, leguminous or succulent plants are in sufficient quantity to make an effect. Lavender takes the place of Heather for many miles, and Stonecrops for grass, save where the wiry Couch Grass holds up the black shale of which so many mountain sides are made. Black shale, white limestone and still whiter patches of snow prevail till the eye is wearied of the violent contrast which is repeated in the intense blue of the sky and the whiteness of the sloy sailing clouds that so rarely condense into thundershowers during summer-time. Truly a brilliant and "hard" climate that recalls the winter climate of the Engadine, and should prove ideal for all who seek purity of air and blazing, unvarying sunshine! And yet there are surprises. A Rose lover has planted a garden high up in the mountains with all the modern varieties of the Rose, and with the deep snow in winter to keep them warm many varieties not only prove hardy, but show themselves to great advantage. For the first time I saw Rose Etoile de France, which is so useless in English gardens, with five fully expanded blooms open at the same time, showing that it is really a beautiful Rose under certain conditions. Sunburst, too, was another surprise, with superb orange-coloured flowers. Jonkheer J. L. Mock is another "eye-opener," for the blooms are so enormous and the petals so very solid that it would make a sensation at an English show. Dean Hole, Molly Sharman Crawford and British Queen are quite at home and really beautiful; while the familiar Dorothy Perkins and nearly all the Wichuraiana Roses are killed down by the winter frosts and so cannot bloom at all! Last year the snow began to fall in this valley on October 21. During the winter it reached a depth of 11 feet on the flat, and did not disappear until the end of April, when the floods did great damage, sweeping away bridges and roads wholesale, and these cannot be replaced under war conditions. On my way here, in the lower Var Valley I was surprised to see how beautiful and abundant are the Pomegranate trees. Perched often on some rock, with the Venetian Sumachs at their feet, pink and cream in early bloom, the combination of colours was most unusual. Higher up, the creamy flowered Chestnuts, succeeded by miles of Lavender and various Brooms, continued the beauty for many miles till the austere mountain heights had been reached and the northern slopes and valleys of the Maritime Alps showed bare in the evening lights — a striking contrast to smiling Savoy.

BLOOMS THAT NEVER SCATTER THEIR FLORETS.

Hydrangea Hortensia

FOR the amateur's glass porch or cool greenhouse Hydrangea Hortensia (the Beauharnais, or the August Roman Lady; will one of the "curious" enlighten me?) is a rock to lean upon. The blue shades have a certain fascination, but there is something behind them, possibly a sense of artificiality, which makes me cling to the old pink, with conversion, perhaps, to the newer variety, Mme. Moullière, which I am trying this year.

In early summer prepare pots of sandy soil (the shallow bulb pots made by Messrs. Dowel and Son of Hammersmith are excellent for all cuttings). Soak and drain well. Take cuttings of young shoots, which have not flowered, from old bushy plants, press these firmly into the soil, being careful, as with all cuttings, that they rest on a solid base. Give a final dressing of sand and keep under a bell-glass in a cold frame shaded from hot sunshine.

In August or September, when well rooted, pot up singly into 3-inch or 4-inch pots and winter in the greenhouse, when very little water is required. In February or early March move into 5-inch pots of richer soil with a touch of peat, and train as a single stem, rubbing off any side or basal shoots that may appear. When growing well and the flower-buds begin to show, start feeding with soot-water and guano-water in gradually increasing strength. Syringe daily and fumigate once or twice (if necessary) to keep away green fly, which always attacks a starved or badly grown plant. (A camel-hair brush and a small basin of water are useful aids to a sharp eye at these times.) No plant responds so well to good cultivation

as the Hydrangea. It revels in rich food (or drink, perhaps), but should not have too large a pot. Let it become potbound, and soak twice a day in hot weather, practically always with a stimulant.

The photograph, taken about the middle of June, shows a group of half a dozen plants thus propagated. Some of the flower-trusses measured 16 inches across each way, and the foliage was a beautiful rich dark green; not the sickly yellow one so often sees. Well watered, such plants last in bloom for two months or more, and make a most effective decoration for sitting-room or cool hall arranged with Ferns and other greenery, especially against a background of old Oak. They have one great advantage, too, in the eyes of the tidy housewife, in that they never scatter their florets.

The Hydrangea is almost the only case in which I would place *size* as one of the first qualifications of the flower, and then only in the case of single-stemmed, one year old plants such as these. The large, heavy truss must have the support of a stick, as unobtrusive as possible; a bushy plant with every bloom tied stiffly up is anything but pretty.

When the flowers turn green with age, cut them off and stand the plants outdoors in full sun to ripen the wood. Cut back in August or early September, winter indoors, repot in February, and repeat the same treatment, except that the second year you will have a bushy plant in a 7-inch pot, and in four or five years a fine specimen in a tub for the steps or terrace.

In the South of England, of course, H. Hortensia is hardy and makes fine bushes outdoors; and readers of THE GARDEN will remember the beautiful picture in the issue of September 30, 1916, showing an unpruned plant in flower in the garden of Princess di Teano, on the Isola San Giovanni, Lago Maggiore. But in the North and colder parts of England it rarely survives a hard winter. Verily "he who loves a garden, loves a greenhouse, too."

W. D.

Climbing Rose Mrs. Littleton Dewhurst

IN the midst of so many varieties of Rambling Roses it is perhaps a bold thing to name any one as being the best. After several seasons' trials of new and old varieties as well as observation of the efforts of others, I have no hesitation in saying the above variety stands alone. Mrs. Littleton Dewhurst is a white sport from Dorothy Perkins and was sent out by Messrs. Pearson, Chilwell Nurseries, some few years since. In growth it is all that could be desired, having the true characteristic habit of its parent with perhaps a trifle more vigour. The trusses of bloom are exceptionally large, and, what is important, the flowers develop simultaneously, making up a huge mass of real white. The blooms are shapely, and well filled in the centre. I do not say there is no pink streak in the colour occasionally; there is in the opening buds, but not nearly to the same extent as in White Dorothy as is generally seen.

Swanmore. E. MOLYNEUX.

LILIUM MONADELPHUM

THIS is one of the best Liliums for general garden culture, the bulbs thriving in the well-tilled soil of the mixed flower border. The season of flowering extends from the end of May to July in the North of England and Scotland. The average height of the flower-stems is from 4 feet to 6 feet, occasionally more when the climate and soil are very favourable. The number of flowers on a stem varies from five or six to twenty or even thirty blooms on old-established plants. These are about 4 inches across, drooping and prettily recurved. The colour varies, especially in seedlings, from pale citron or canary yellow to a deep yellow, usually prettily spotted. Plant the bulbs 4 inches to 5 inches deep, early autumn being the best time. Resenting disturbance at the roots, as long as the bulbs are happy in their surroundings and flowering freely leave them undisturbed. A native of the Southern Caucasus, this Lilium is said to have been first introduced about 1820. L. Szovitzianum and L. colchicum are names given to forms of this beautiful Lily, but the reputed characteristic distinctions are not reliable, being found in seedlings from L. monadelphum.

A. O.

WINTER SPINACH

THIS vegetable increases yearly in popularity as its merits become more widely known and the ease with which it can be produced at a minimum of cost in seed and labour. Even a yearly supply entails no difficulty where space is available and a regular system of sowing the seed at stated intervals is practised. Many persons grow Summer Spinach, but few during the winter and early spring. It is to these I specially wish to point out the advantage of Winter Spinach.

It is not necessary to sow the Prickly-seeded variety at this season, as the Round-seeded kind is equally satisfactory. As, however, both are equal in price, it does not matter which sort is sown. For present sowing a south border is the best site, as it affords some protection from cold winds during the winter and early spring. If such a site is not available, a well-drained plot in the open should be selected. This should be fairly well manured and deeply dug. The drills, 2 inches deep, should be 14 inches apart and well watered before sowing the seed if the soil is dry, as this watering greatly hastens the germination of the seed and gives a fillip to early growth, enabling the plants to become sturdy before winter sets in. If the seed should be sown too thickly, thin the plants directly they are [illegible] this will induce a stockier growth [illegible] in favour of future success.

E. M

THE WHITE RAMBLER ROSE MRS. LITTLETON DEWHURST.

THE CHOCO

(SECHIUM EDULE.)

BY R. IRWIN LYNCH, V.M.H.

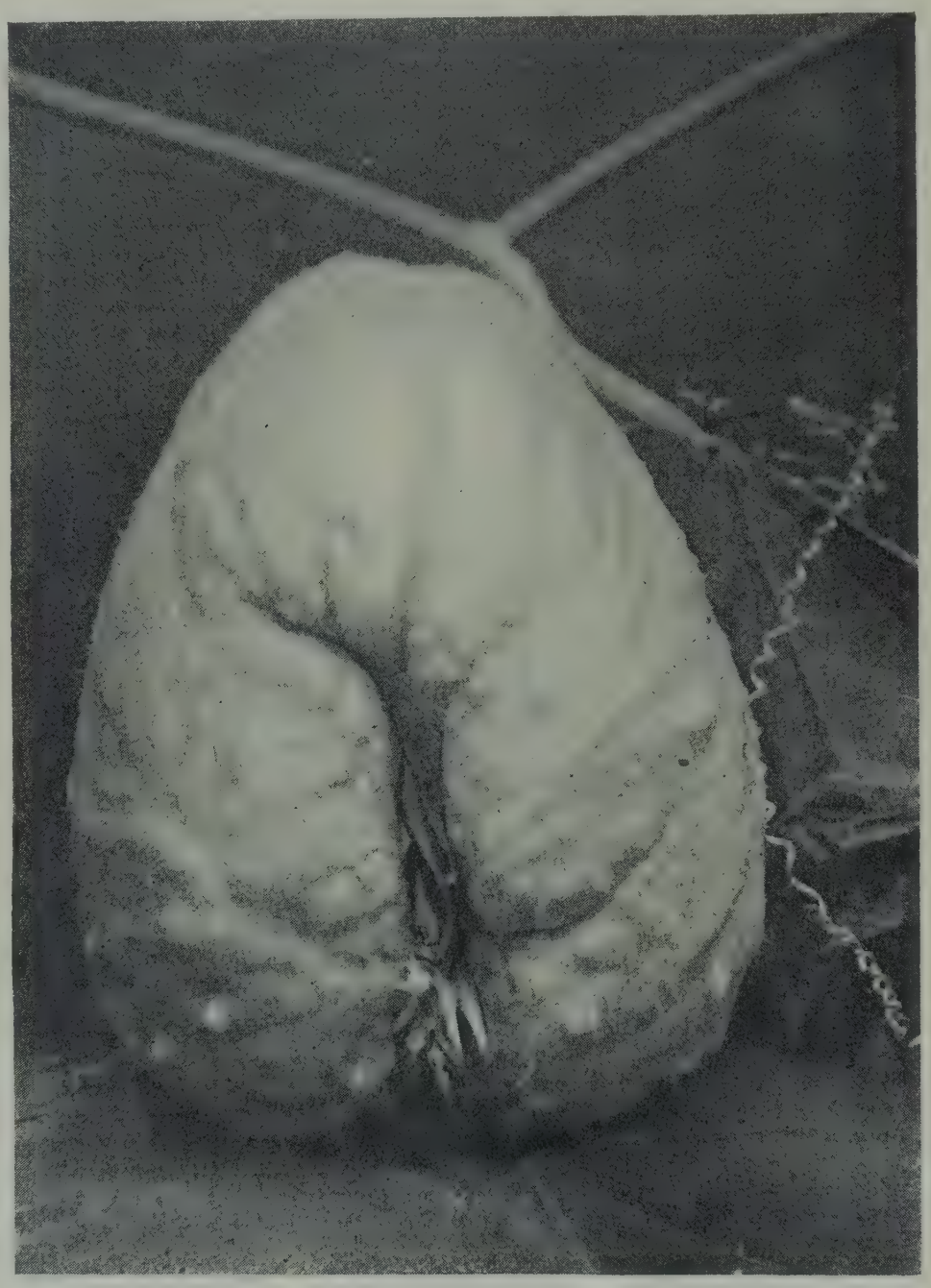
A RARE fruit in this country, sometimes found in Covent Garden and elsewhere, is known as the Chocho, Chayote, or, vulgarly, as Chow, as I understand it to be pronounced in London; and it is produced by Sechium edule, otherwise Chayota edulis, the name apparently adopted in America. It is a native of the West Indies, where it is largely cultivated, and it has been introduced to Madeira and other Atlantic Islands. The fruit is used as a vegetable, like the Vegetable Marrow, and it belongs to the same Natural Order—the Cucurbitaceæ. In this Order it is remarkable and distinct, quite unlike anything else. Instead of a number of seeds, it has one seed only, which is pendulous and germinates in the fruit, so that to obtain a plant the fruit itself must be sown. The fruit obviously supplies a large store of nutriment for the young plant, and though it does not seem to be stated, either by Hooker or Cogniaux—and both were authorities on the Order—I find that the seed is fused with the walls of the fruit. This seems clear by cutting through a partly grown fruit I have had to spare for the purpose. Germination has commenced here while the fruit is still attached to the parent plant, roots appear, but a radicle has not been seen and apparently it must be suppressed. The early growth of the plumule can be seen between the cotyledons, which gape apart, as may be observed in the illustration on page 310 of a fruit produced last autumn in the Aquarium of the Cambridge Botanic Garden. The suture or fissure of the fruit which permits the seed to be seen is quite natural in the mature fruit and appears to be formed by limitation of growth along its line, yet there must be a breaking open in some way, because in the younger fruit above referred to,

in which the fissure was well formed, the flesh was solid and continuous over the seed.

The economic importance of this fruit appears to be great. It is described as extremely wholesome and commonly used in the West Indies as an article of food by all classes, and also as providing a very fattening food for pigs and other animals. In a publication of the Department of Agriculture, Washington, just received, "Plant Immigrants," No. 126, the large white "Perulero" is recorded from Guatemala, and is described as one of the very best varieties of Chayote or Guisquile there grown. Two classes are distinguished in the markets of Guatemala, one including all the larger fruits, varying from green to white in colour, the other including small fruits, white to green in colour, with the surface smooth and free from prickles or soft spines. Both classes are exceedingly abundant. From Santo Domingo fruits had been received, and interesting points of information are given. Growth is said to be wonderful, and after ninety days it is known to produce over a hundred fruits. They are known as Tallote, and there are two kinds, but they are said to differ only in the colour of the skin, whether white or green. The plant is much liked by the natives, and is prepared in many ways for use in soups and meat dishes as well as in the manufacture of candy. Native physicians prescribe it not only as food for children and old people, but also to be used externally. The leaves are boiled and are then used to cure rheumatism. It might be suggested that this kind of fruit could be dried and imported in bulk for all purposes at no serious cost, since it probably is cheap where it can be grown and would be likely to submit to a drying process.

The fruit which produced the parent plant of that here illustrated was given me by Mr. Delph of Cambridge, who visits Covent Garden, and I believe it was green and longer than that of our illustration, which is pale yellow in colour. If there has been this change it is remarkable, but both kinds are described. There is only one illustration with which I am acquainted, viz., that in Jacquin's "Selectarum Stirpium Americanarum Historia," drawn by Jacquin himself, and, it might be said, only in the rough without any fineness of detail. This illustration represents the form of fruit shown by the accompanying illustration, and it is under the name Sicyos edulis. In Pritzel I find a reference to *Bot. Zeitung*, 1858, 3, but that is anatomical. Sechium edule in its habit and leaves may be likened to a Cucumber plant, except that the leaves are smaller, less rough, and paler green. It is said by the "Treasury of Botany" to have a fleshy root which resembles a Yam both in edible qualities and appearance, and to attain a weight of 20lb., but this I have not seen produced, and so far as I have known the plant it has always died after making one growth. The flowers and fruit I have never seen produced before, and as the flowers are unisexual (monœcious), assistance in pollination is probably necessary. In this case, as I took trouble to examine the flowers, I believe I did pollinate the females. The growth of the fruit was phenomenal in its rapidity, and it very soon attained full size. I have a new plant growing up from one of the fruits produced last autumn, and a second shoot, possibly through a slight check of the first, is growing up from the same seed.

Two other very interesting Cucurbitaceæ are now represented in the Cambridge Botanic Garden —Hodgsonia hetoclita, which has immense seeds not suggesting those of a Cucurbit; and Acanthosicyos horridus, a leafless, spinose shrub with globose, edible fruit the size of an Orange. Hodgsonia is a splendid Cucurbit, the most magnificent of the Order, but it has never flowered in this country. It has deep green leaves not unlike those of a Passiflora; the flowers, which are diœcious, have a long tube; the limb of the corolla is about 6 inches over, rufous yellow with dark veins below and above white; while from each segment depend six spiral, tendril-like continuations of yellow colour, which without being extended are 6 inches long.



THE CHOCO. A LITTLE KNOWN FRUIT IN COVENT GARDEN.

The fruit resembles a brown Melon. The seeds, according to an example before me, are 3 inches long, nearly 2 inches wide and 1¾ inches thick. It is curious that "two collateral ovules contract an adhesion and together form only one seed with two cells and often two embryos, though one is usually imperfect." The embryos are said to be eaten like Almonds, but they are described as rather insipid. Hodgsonia grows freely enough, while Acanthosicyos can hardly be grown at all, and no doubt requires a very special environment. It is indigenous to South Africa, growing in Namaqualand, Angola and Mossamèdes, and the fruit is eaten by the natives.

A COLUMN FOR THE CURIOUS

SEVEN RHUBARBS.—Perhaps the Rev. J. Jacob might be interested to know that in the *Gardener and Practical Florist*, a weekly horticultural paper that came into existence on March 1, 1843, and of which I have several odd numbers, a list is given by Rogers—one of the best kitchen gardeners of his time—of seven varieties of Rhubarb, with notes on their culture, which I will give in his words as printed:

"1. Rheum Rhaponticum—Rhapontic Rhubarb—a native of Asia, introduced and cultivated since 1573. From the date it will be observed to be an old inhabitant of the English garden.

"2. Rheum undulatum—Waved-leaved, or Chinese Rhubarb—a native of China, introduced in 1734.

"3. Rheum hybridum—Hybrid Rhubarb—a mixed variety, a native of Asia, and cultivated since 1778.

"4. Rheum Palmatum—Spreading, or Palmated-leaved Rhubarb—a native of China and Tartary, and first introduced into this country, according to the 'Hortus Kewensis,' in 1763. The roots of this and the undulatum species constitute the drugs sold in our shops under the name of Chinese and Turkey Rhubarb; the other varieties also possess the like medicinal properties. There have been several attempts made to cultivate the Rhubarb for that purpose and dry it in a similar method to the Chinese, but from some cause or other, and principally from the want of a stock of roots of sufficient age, it has been laid aside. What has been prepared, however, was found to be equal to that of foreign growth.

"5. Buck's, or Elford Rhubarb.—This esteemed and valuable variety was raised from some seed of Rheum undulatum a few years ago by a Mr. Buck (whose name it now bears) of Elford, near Lichfield in Staffordshire. It comes very early, and may be forced in various situations, retaining its fine scarlet colour to the last, though it prefers darkness to the light; its flavour seems to be more heightened than diminished.

"6. Tobolsk Rhubarb.—This variety is of late introduction, and is stated to be very superior for all the purposes of forcing. The author has heard it highly extolled by many who have given it a trial, and for delicacy and fine flavour it stands pre-eminent.

"7. Giant Rhubarb.—This is an excellent and profitable variety, producing leaves of immense size and stalks from two to three feet long, which are thick and fleshy, and abound with the fine acid juice. When cooked they are tender and well flavoured. A few of this sort should be grown in every garden, and especially in that of the cottager.

"The Pontic and Waved varieties, being the most hardy, are proper only for the open air, as neither improves by forcing, hence a good stock

of the Tobolsk and Elford should always be kept up for forcing.

"The Hybrid variety is said to be the most succulent, and perhaps it might be so in some soils, but the author could never observe any difference between it and the Waved-leaved."

He then gives a chapter on his systems of culture.—G. YOUNG, *The Gardens, Brantingham Thorpe, Yorkshire.*

Plants on a Small Moraine Garden.—IV

BY T. ASHTON LOFTHOUSE.

Primula spectabilis.—This was planted in what I considered to be a more suitable part of the garden for Primulas, and flowered well the first season, but, as frequently happens with Primulas (at least with mine), it died off in the winter, rotting off at the roots and seemingly helped by the worms pulling the fibrous roots away. [P. capitata does quite well. A plant or two provide flowers at a time when they are most wanted on the moraine; the plants do not usually last more than two or three seasons. I am trying other Primulas on the peat moraine, but as these have only recently been planted, it remains to be seen how they succeed. I may say that my experience with P. luteola, of which I put in two plants, has not been very encouraging, the stems being eaten through and the leaves or remains of them lying about alongside; curiously, the only plants touched in this way and considerably apart. The cause of this persistent persecution I have not been able to make out, but one of the plants which started to throw up fresh leaves had them again treated in the same way.]

Polemonium confertum mellitum.—The plant I obtained for this did not turn out to be correct, the flowers being pale blue (not white as stated in Mr. Farrer's list). It only made slow progress on the middle or driest part of the moraine, and, since removed to allow this part to be remade, it has died. Good ordinary soil, with efficient drainage, would no doubt be most satisfactory for this family.

Ranunculus alpestris.—This was only added, along with the two following members of the same family, in the early part of 1915, and placed in the limiest portion; it only had one or two of its lovely crinkled white flowers on last year, but the plant has grown considerably and I have hopes of it doing better in the future. R. glacialis did not survive the first winter. Probably the conditions were too dry for this species, or it is possible that the shock received from the very unusual ice storm I have mentioned before may have affected its stamina, especially seeing that it had not been long planted. R. parnassifolius survived its first winter and made some growth, but was only very sparing with its flowers. It has flowered much better this year.

Silene Elizabethæ.—Only one plant being raised from seed sown in the autumn of 1913, and it making very slow progress, I purchased another in the spring of 1915, but neither of them has shown any sign of flowering as yet, growing very slowly, but appearing to be quite healthy, and I am hoping it may break out this summer.

[S. acaulis and S. acaulis alba.—Both of these have been disappointments, as I understand is so often the case. Var. alba flowered more freely than the type, but both have been very sparing, and I am now trying them in other quarters. I have recently added S. acaulis escarpa in the hope that it will show better results. It would be interesting to have the experiences of any who have succeeded with this Silene. S. alpestris.—Although this grows freely in other parts of the garden, it has such beautiful flowers and good habits that I include a plant or two of it. S. Hookeri I have not had the pleasure of trying as yet.]

(*To be continued.*)

A Handsome Striped Grass

THE variegated form of Glyceria aquatica is a much better plant than the old "Gardeners' Garters." The yellowish stripe in the leaf is bolder, and the whole plant has a better appearance. The illustration shows it near the front of a flower border where there is a group for yellow colour effect, formed of Calceolaria amplexicaulis with the variegated Mentha rotundifolia. These were not yet grown when the photograph was taken in June. The whole when grown forms a delightful colour combination, the yellow-white of the variegation, in both Grass and Mint, having the tone that exactly suits them as companions to the canary-coloured Calceolaria. As the Grass would naturally come to perfection a little too early for the others, we check it by pulling it up and immediately replanting it in April. G. J.

THE VARIEGATED FORM OF GLYCERIA AQUATICA.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Globe Artichokes.—Owing to the scarcity of plants every encouragement should be given to those in existence for the future crop. Do not allow any plants to flower, as the energy for this weakens the future growth. Keep the ground free from weeds so that growth will be sturdy and mature.

Broccoli.—Where plants were put out between rows of Peas or second-early Potatoes, these crops having been cleared, fork over the ground about the Broccoli plants to induce them to make sturdy growth.

French Beans sown in frames during July will require staking and tying to maintain the growth of tall-growing varieties erect; the pods then grow quite straight, in which form they are the more desirable. Keep the plants well supplied with water during dry weather and syringe them every evening. Until the end of the month the lights will not be required over them.

Turnips.—Sow good breadths of Snowball, Orange Jelly and Prizetaker, in well watered drills should the weather be dry, to ensure prompt germination of the seed and accelerate growth out of the way of the Turnip fly.

Carrots.—Sow seed of Short Horn varieties in frames that were used for early Potatoes, Cauliflowers, &c., to give a supply of roots for early winter use. Sowings on a south border, too, will give useful roots during the winter.

Celery.—During this month much attention is required to keep the plants in a satisfactory growing condition. Remove all side growths before earthing or the use of paper for blanching. Thoroughly soak the roots during dry weather and dust with soot occasionally. Six weeks is required for blanching.

Spinach.—For early autumn use make further thin sowings in an open site of either the Round or Prickly varieties. During dry weather stir the soil occasionally between the rows of those plants coming through the soil.

Cucumbers in frames that have borne fruit heavily will require severe thinning of the old growths to encourage new shoots to give a succession of future fruits. Mulch the surface with half-decayed horse-manure or give a sprinkling of superphosphate or soot, thoroughly soaking the roots with water if at all dry, and keep the frame closer to encourage new growth by utilising the sun-heat in the afternoon especially.

The Hardy Fruit Garden.

Black Currants.—No time is more suitable for pruning the trees than when the fruit has been gathered. Cut away old bearing wood to make room for the full development of young shoots, which usually spring up in the centre of the bushes. By the early removal of shoots that would otherwise have to be taken out during the winter pruning, the growths left have an opportunity to mature and thus be in a better condition for the next season's crop of fruit.

Thinning Pears and Apples.—No time should be lost in finally thinning surplus fruits if they are too thickly placed to enable the full size for each variety to be attained. It is better both for the fruits and the future crops that they should not be left too thick, thus creating a heavier strain on the tree than is necessary. If Apple trees were not allowed to carry such heavy crops as they sometimes do, we should not hear so much of the semi-yearly cropping of certain sorts. No tree, no matter how vigorous, can withstand an abnormal strain too long.

Grafted Trees.—Examine this season's grafted trees. Where the ligatures securing the grafts are being overgrown by the bark of the stock or graft they should be cut away, enabling the graft to grow away freely. Remove all growths from the stocks below the grafts to ensure the full energy

of the tree being concentrated in the grafts, which should make growths 2 feet long.

Fruit Under Glass.

Melons in frames require considerable attention to ensure a crop. Keep the shoots thinly regulated to admit light and sunshine to the blossoms. To ensure a full set of fruit, impregnate the blossoms during the middle of the day when the pollen is dry.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)

Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—The crop for winter and spring should be sown without delay, the advice to put off sowing till September, which is sometimes given, being attended by a very certain risk where adopted. As there is little or no growth for at least two winter months, and frequently not until March, it is important to make this a large sowing and to allow more space for the plants than is needed for summer crops. So pronounced is the advantage of room for each plant that 15 inches to 18 inches is none too wide to interspace the rows, and 1 foot or more between the plants in the rows. Usually ground cleared of Potatoes is in excellent condition for sowing, especially if when lifting these the workman stirs every inch of ground and leaves it level. Manure need not be applied, but later a good dressing of soot is useful in thickening and darkening the leaves. Giant Viroflay or another improved variety should be sown in preference to the old Prickly kinds.

Turnips.—Seeds sown at once will produce nice tender roots in early winter and an abundance of leaves and shoots in late spring, when usually the choice of outdoor vegetables is limited. Sow also Lettuces and Radishes for the last time for the season.

Onions.—Those raised under glass in spring give such superior results to autumn-raised Onions that at present I would only sow sufficient for early use. The seeds should be sown thinly enough not to need thinning, and the rows be just wide enough apart to permit a Dutch hoe to be run between them. The main crop will need no attention for some time beyond drawing any weeds that have escaped notice earlier in the season.

"Cleaning Up."—As Peas and other crops pass out of use they should be cleared away immediately, Potato haulm removed daily, and litter of no kind left on the ground. This attention not only gives the vegetable quarters an appearance of neatness, but facilitates their keeping so very considerably.

The Fruit Garden.

Strawberries.—At least the earliest varieties—and, by the way, I made a mistake in a previous calendar in the name of "Kentish Favourite"—should be repotted into fruiting pots, either of 5 inches or 5½ inches. These need no more than one potsherd for drainage; and a fair loam to which one-fourth of dry cow-manure, rubbed through a fine-meshed sieve, is added and a slight addition of a fruit manure or of superphosphate of lime make a suitable compost. Firm the soil above the drainage quite as much as that around the ball, and for a time be careful not to apply water profusely, nor, on the other hand, be niggardly in its use. Plants in the open which have done fruiting and are to be destroyed should be cut over at the surface of the ground and left to dry, afterwards burning them. Those still worth keeping should be cleaned of weeds.

The Flower Garden.

Dahlias.—Much of the value of these grand flowers is lost through inattention to a few details at this period. The singles, which ought to find a place in all good gardens, produce seed-vessels, which should be occasionally removed not only to improve the appearance of the plants, but also to enable them to continue to yield flowers profusely. Other sections usually produce more shoots than are wanted, the effect of which is to lower their decorative value. The need here is to carefully lessen their number. Pompon varieties may, and should be, less drastically treated. Where Dahlias are staked, the shoots will need a final look over for the season.

Plants Under Glass.

Cyclamens.—The sowing of these must be no longer delayed. Young plants will now be growing with great vigour if healthy, the greatest bar to success being attack by thrips, which are easy to keep down by persistent vaporising. Older plants are now making fresh growth and need more water at the roots, which may mean, where the tubers are large, twice filling the space for water when liquid is wanted.

Begonias.—Gloire de Lorraine is quite as susceptible to injury from thrips as are Cyclamens, and if they are grown in the one structure the same treatment suits both. Attention to tying the shoots so as to produce well-proportioned plants is important, and occasional applications of weak manure water will do much to keep a glossy and healthy leafage.

Cinerarias.—Continue to repot these, the proper stage being when the roots have taken possession of the soil of the previous pot, but before they become in the least matted. An open and very highly manured compost suits these best. Keep the plants in the open, but with sashes ready to place over them. These conditions are favourable to vigorous growth and unfavourable to insect attacks.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)

Tyninghame, Prestonkirk, N.B.

CODONOPSIS OVATA

CODONOPSIS OVATA is quite a good border or rockery plant. It also looks well in a wall garden, and I consider that the rockery or wall is the best place for it. Much of the charm of its flowers is hidden if only the outside is visible. They droop neatly, and should be turned up to discern their full beauty if not above the level of the eye. They are of a pale blue, bell-shaped, and have deeper-coloured veinings. The exterior of the flower has a purple zone at the base, and the interior is decked with two zones of yellow and one of black—a most uncommon combination. It may also be mentioned that the blooms have a strong coffee-like odour (not too agreeable, by the way). [Far from it.—ED.] This Codonopsis comes from the Himalayas, and is about 1½ feet in height. It should have a light and rather dry soil, and a sheltered, though sunny place. Unfortunately, Codonopsis ovata is not too hardy, and in the colder parts of the kingdom requires protection in winter. In some parts, however, even in Scotland, it is hardy enough.

S. ARNOTT.

CODONOPSIS OVATA ON A ROCK WALL.

Rates on War Food Plots

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The following correspondence which has recently passed between the Chairman of the Kingston Branch of the National Land and Home League and the Chancellor of the Exchequer will, we feel sure, be of great interest to many of your readers, and we hope you will be able to find space to insert it.—Yours, &c.,

HENRY BENTINCK, President.
SAYE AND SELE, Chairman.

The National Land and Home League, Queen Anne's Chambers, Westminster, S.W.1.

April 19, 1917.

The Chancellor of the Exchequer, Whitehall, S.W.

SIR,—*Re* Schedule A and rates charged on war food plots, in November, 1916, this branch was lent a piece of ground of about 1¾ acres in Gloucester Road, Kingston-on-Thames, free of rent, for cultivation in small plots. This ground was rated and the appeal to the Assessment Committee was not successful.

This year I have received a demand note for Income Tax under Schedule A based on the assessed rateable value, and I have refused to pay until the general question is decided by you.

The rent charged to occupiers is 9d. per rod, and this is not "rent" in the economic sense at all, but a contribution to meet expenses of fencing, management and the like, which are at present unknown.

The branch now controls 654 plots. Rent is paid to the owners of the land in respect of about half the plots, and the question of Schedule A does not arise, as it is rightly charged and deducted by us from the rent. No rent is paid for the other half except a nominal charge of 2s. 6d. per acre by the Kingston Corporation on 138 plots (9 acres) and a peppercorn rent in another case.

The question at issue cannot be merely local, and may be put shortly thus:

Are war food plots, on which no rent is paid to owners, rightly assessed under Schedule A when the rent paid by cultivators is merely for the payment of expenses and not to provide personal profits? If not, are such plots which were provided through similar exertions to those of our branch, but before the Order in Council of December last, to receive similar treatment?

My Committee is of the opinion that, seeing the urgent national need of such cultivation and taking into consideration that the plot workers do not receive an economic return for their labour, there should be no charge made under Schedule A.

They also consider that these plots should not be assessed for local rates, in any case, where there is no extra expense incurred by the local body. If such expense is incurred, I understand it will be refunded under the Order in Council up to £2 per acre.

The local Surveyor of Taxes states that he is bound to assess under Schedule A where rates are paid. In ordinary circumstances this is doubtless correct, but these are extraordinary circumstances, and I fail to see why Income Tax should be charged when there is no income. It may be said that the resultant returns of vegetables to the cultivators is an income, but if each cultivator included the cost of his time in his expenses, the balance would be on the wrong side. In any case most of the cultivators are exempt even from quarterly assessment, and therefore not liable.

With all respect I would submit very strongly that all such plots should be officially declared free of Income Tax under Schedule A and not assessable to local rates.—I am, Sir, your obedient servant,

J. A. MARSHALL.

Norbiton and Kingston Branch, National Land and Home League, Normandie, Gloucester Road, Kingston Hill.

May 31, 1917.

J. A. Marshall, Esq.

SIR,—In reply to your letter of April 19, I am desired by the Chancellor of the Exchequer to say that he understands that the Income Tax Schedule A assessment on the piece of ground in question has now been discharged by the District Commissioners of Income Tax.

As regards the question of the assessment of the ground to the local rates, Mr. Bonar Law wishes me to suggest that you should communicate with the Local Government Board.—Yours faithfully, R. P. M. GOWER.

Treasury Chambers, Whitehall, S.W.1.

[COPY.]

Local Government Board, Whitehall, S.W.1, June 18, 1917.

SIR,—I am directed by the President of the Local Government Board to advert to your letter of the 1st inst. as to the rating of plots of land used for food growing.

I am to state that the paragraph numbered 4 in accompanying circular dated January 31 last indicates the Department's general view as regards the rating of land taken by a local authority for the purpose of the Cultivation of Lands Orders.

There may, however, be cases where, having regard to the conditions of hiring of any particular plot of land, its value for cultivation, convenience of access or other considerations, the local authority feel that it is reasonable that an equivalent of the rates which have hitherto been paid in respect of the land or would have been payable under normal conditions should be forthcoming, and it is open to the local authority to make arrangements accordingly.

Plots of land used for food production by private arrangement between the owner or occupier and the cultivator are in a somewhat different position from lands taken by a local authority acting under the Orders as agents of the Board of Agriculture and Fisheries. In many cases such land has been lying idle or has not been used or not principally used for the production of food crops, and the present emergency has led to its being utilised temporarily in the form of field gardens or allotments. The Department have taken the view that having regard to the special circumstances in which the lands are being cultivated, the rating authority might properly refrain from bringing the lands into assessment or collecting rates from the cultivators. There may, however, be cases where it might not be unreasonable that rates should be paid in respect of the land, but it rests with the rating authority after consideration of the circumstances in each particular case to decide whether or not they will require payment of rates.—I am, Sir, your obedient servant,

(Signed) D. DOLTON, Assistant Sec.

J. A. Marshall, Esq.

EXTRACT FROM LOCAL GOVERNMENT BOARD CIRCULAR, JANUARY 31, 1917.

"(4) RATES ON LAND CULTIVATED.

"The Local Authority are, under the Order, acting as the agents of the Board of Agriculture and Fisheries, and the land taken may be regarded as Crown land and thus not subject to rates. The cultivators will not be in the position of ordinary tenants, but rather in that of users of the land by permission of the Local Authority for the express purpose of increasing the total food supply of the country, and in these circumstances we think they may be regarded as not liable for the payment of rates."

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

SWEET PEAS (*Miss E. M. G.*).—The varieties Tea Rose and Old Rose may be obtained from Messrs. Dobbie and Co., Edinburgh; the variety Surprise from Mr. Robert Bolton, 10, Queen Street, Haverhill, Suffolk, the raiser and distributor.

CLEMATIS LEAVES FOR EXAMINATION (*H. B. H.*).—The leaves of Clematis lanuginosa sent for examination appear to have been injured by aphis while in a young state, but there is nothing on at present to indicate the correct source of disease. Keep a sharp look-out on the plant, and in the event of insect life being detected, please send again and we will advise you as to its eradication.

CATERPILLARS ON SOLOMON'S SEAL (*M. J. T.*).—The caterpillars attacking the Solomon's Seal are not those of a moth, but of a sawfly. The two forms of larvæ are very similar to one another, but may be readily distinguished by the number of legs and by the little curve near the end of the tail which the sawfly larvæ generally show. Where hand picking is impossible (in this case it might be effected partially by shaking the plants over a piece of paper or a cloth), for all biting insects spraying with lead arsenate is best. This poison should, of course, not be used on plants or parts of them which it is intended to eat within a few days, but otherwise it is the best and most effective material to use.

INJURY TO LILY LEAVES (*Enquirer*).—The Lily is attacked by the common Lily disease, due to the fungus Botrytis cinerea. This fungus attacks many kinds of Lily, mostly when the foliage has been weakened by exposure to cold winds or to frosts. Under these circumstances it is exceedingly frequent and troublesome. There is no cure when once the plant is attacked, but preventive measures are (1) the planting of the bulbs where they will not be exposed to these conditions, and (2) the removal of the top 2 inches or 3 inches of soil from above the bulbs (which are themselves perfectly healthy at present) and its replacement with fresh soil mixed with lime or powdered chalk. The transplanting, if it be necessary, should be carried out soon.

THE GREENHOUSE.

COLD CONSERVATORY FOR GROWING VEGETABLES IN WINTER (*C. C. H. M.*).—Vegetables can be grown fairly well under glass during winter and spring, especially in cold frames and pits, where the crops have the advantage of being near the glass and all the light available during these sunless months. Conservatories generally are too lofty and not suitably ventilated for the growth of vegetables in spring. However, if you can form borders of soil of a depth of 15 inches on the floor or fill up boxes of the same depth, say, early in January, and then sow the following crops towards the end of the month, you should succeed in producing useful crops: Cabbage Sutton's Earliest, Spinach, Peas, Potatoes, Carrots, Marrows, Turnips and Lettuce. If you propose growing such in boxes, they could be placed on the stages and thus brought nearer to the light. Sow the seeds very thinly in the boxes in the case of Cabbage, Carrots, Turnips and Lettuce, and, as soon as the young plants are large enough to handle, thin them out to 9 inches apart in the case of the Cabbage and Lettuce, the Turnips to 5 inches apart, and the Carrots to 3 inches. Sow Radishes among the Carrots. They will be ready for pulling before they can hurt the Carrots. The Marrows should be sown at the end of February and grown in boxes or large pots. Peas and Potatoes to plant in rows about the middle of January.—Let the soil be fairly dry at the time of planting. Better results (and at less trouble) will follow by sowing and planting than if you tried to grow such plants through the depth of winter. Add a little lime, leaf-mould and short, dry manure to the soil. Plants for cold conservatory.—Pot up a few Chrysanthemums, yellow and white Marguerites, and late Gladioli. Plant early bulbs in pots in August, such as Snowdrops, Crocuses, early Roman Hyacinths, early Tulips and Paper-white Narcissi. Conserved sun-heat will help all these to bloom early. For spring flowering in such a house we have nothing brighter nor more welcome than bulbs and hardy shrubs potted up in autumn and placed under glass in January, such as Lilacs, Spiræas japonica, confusa and others. Azaleas, Cerasuses (double Cherries), Cytisus, Deutzias, Forsythias, Jasmine, Laburnum, Prunus triloba and others, Rhododendrons, Staphyleas, Viburnums, Weigelas, Arum Lilies and Hydrangeas can be wintered safely in a cold house, when they should flower in spring. Now is a good time to propagate the Hydrangea. Rambler Roses.—You should give them larger tubs or pots and more water. The herbaceous border should be replanted nad rearranged every three years, deeply dug and generously manured, top-dressed with manure, and dug in every autumn. Rock plants of creeping growth to sow now.—Alyssum saxatile, Arabis albida, Aubrietia, Cerastium, Gypsophila prostrata and Iberis correæfolia. Fowl-manure is valuable in the garden, and may be safely applied to any vegetable crop by mixing an equal quantity of soil with the manure.

FRUIT GARDEN.

FIG TREES IN POTS TO PLANT OUTDOORS (*W. G. B.*).—If there is a prospect of the trees finding room under glass again, say, in a couple of years' time, the best thing you can do with the object of converting them to fertility is to plant them out in a sunny, sheltered border in moderately good soil, and there leave them for a couple of years. Repot them in the autumn and place under glass in a cool temperature early in March, allowing them to start into growth without forcing. The trees must be protected from hard frost in winter while they remain in the open ground. You cannot depend on the trees ripening their fruits in the open ground in your part, so that if they are not again wanted for the greenhouse there is no object in keeping them.

SPECIMEN APPLES WITH CRACKED SKIN (*A. W. C.*).—Your tree is affected by the work of a fungus called Cladosporium dentriticum. There is no cure known for it once it has made an attack, and the only way of eradicating it and preventing its appearance in future is to burn all the leaves of the trees as they fall, also all the prunings at the time of summer and winter prunings. Cut away all dead branches, and spray the trees in winter with Bordeaux mixture, which is composed of the following: Sulphate of copper, 10oz.; caustic soda, 1¼lb.; water, 10 gallons. When only a little is required, it is much better to buy the small quantity—such as you would want—rather than make it. It can be had of all seed merchants and sundriesmen with directions how to use. The fungus continues to spread over the fruit after it is gathered, so the fruit must be isolated from that which is healthy.

CORDON PEARS NOT FRUITING (*G. E. P.*).—We think the reason must be that the ground is poor and too dry generally. It should be remembered that the soil at the foot of walls dries up very much quicker than does that in the open, the wall and its foundations favouring the free passage of rain. It is a common cause of fruit trees growing against walls doing badly. We suggest that you give the trees three or four good soakings of manure water between now and the end of the summer, To improve the quality of the soil and to encourage the growth of new surface roots, add *now* a top-dressing, 4 inches deep, of well-rotted manure to the surface of the soil over the roots of the trees. This will prevent the soil drying so quickly, and at the same time feed the roots of the trees. Summer pruning of the cordons. If this has not been done, lose no time in cutting back all the side shoots of this year's growth to within five buds of their base. This will help the ripening up of the fruit-buds for next year.

HOW TO PACK RASPBERRIES TO FORWARD BY POST OR RAIL (*T. W. Y.*)—In the first place it is essential for them to be gathered before they are quite ripe. The best way to pack them is to have shallow, light boxes made, say 15 inches by 7½ inches wide and 2 inches deep. Put a thin layer of fine wood-wool on the bottom of the box, and then a layer of fresh and cool French Bean leaves; then place a row of Raspberries across the box, say 2 inches wide (with leaves at its back against the end of the box). The row of fruits should be nearly as deep as the box, but leave room at the top to cover the fruits with leaves before the lid is put on, say rather more than an eighth of an inch. Place a layer of leaves against the side of the row of fruits to keep it up, and then fill in the second and subsequent rows in the same way, adding leaves between the rows to keep them separate until the box is filled. Place as many layers of leaves on the top of the fruits as will keep the same firmly in their place after the lid is gently pressed on. The great aim should be to fill the box well with fruits and leaves without undue pressure, in order to prevent oscillation on the journey. Such fruits will travel better by rail than by post. All soft fruits may be packed in the same way.

SELECTION OF CURRANTS, GOOSEBERRIES AND PLUMS (*W. G. B.*).—Black Currants.—Baldwin's Champion, Black Grape and Boskoop Giant. Red Currants.—New Red Dutch, Prince Albert (late) and Skinner's Early. White Currants.—Bar le Duc, Dutch White and White Versailles. Gooseberries for dessert.—Lord Rosebery, Langley Gage, Companion, Highlander, Lady Leicester, Leader and Speedwell. The following are later dessert sorts: Duke of Sutherland, Lancer, Marlborough, Rifleman and Whitesmith, Gooseberries for exhibition.—The following are among the largest and best for this purpose: White.—Antagonist, Careless and Lancer. Green.—Stockwell, Telegraph and Thumper. Red.—Bobby, Dan's Mistake and London. Yellow.—Catherina, Drill and Leveller. Gooseberries to gather ripe for jam making or bottling.—Warrington, Ironmonger and Red Champagne. Varieties best adapted for gathering green for bottling or for sale.—Crown Bob, Keepsake, Leveller and Whinham's Industry. Plums.—The following are among the best: Dessert.—Coe's Golden Drop (suitable for planting on north wall), Denniston's Superb Gage (one of the best), Early Transparent Gage, Old Green Gage, Jefferson's Gage, Late Transparent Gage, Kirke's Purple, Utility (fine flavour and most prolific), Victoria (dessert or cooking) and Oullin's Golden Gage (fine for bottling). Culinary varieties.—Victoria (cooking or dessert), Belgian Purple, Czar (purple, small and prolific), Diamond (very large and fertile), Monarch (one of the best, purple, large round, good for dessert when dead ripe) and Rivers' Early (very early, small variety, prolific, and fine for jam making). The firm you name is among the best.

KITCHEN GARDEN.

CATERPILLARS OF THE COMMON WHITE BUTTERFLY ATTACKING ONIONS (*Miss W.*).—This is the first time we have seen the caterpillars of the common white butterfly (Pieris brassicæ) feeding on Onions, but there is no doubt whatever that it is that species, which is very abundant this year. Hand picking is the most effective measure, and, failing that, spraying the plants with lead arsenate (1lb. to 15 gallons of water). If, however, the Onions are approaching maturity, it would be better not to use this poison spray upon them, but to hand pick. If nearly ready to pull, the tops may be bent down and the grubs killed by pressure of the foot.

ASPARAGUS MAKING WEAK GROWTH (*W. H. W.*).—The best thing you can do now to strengthen your Asparagus roots and grass growth is to keep the beds clear of weeds and to give them a good watering once a fortnight, while the weather is dry and warm, throughout the summer. Do not cut off the grass in autumn until it is dead ripe, and then be careful not to pull at the grass in cutting, but cut clean off with a sharp knife. As soon as the bed is cleared, give it a top-dressing, 3 inches deep, of short, well-rotted manure. It will take some years to bring back a neglected bed of Asparagus into good condition. The above is all you can do this year. Write us again at the end of March, and we will try to help you with the summer treatment.

CELERY DESTROYED BY A FUNGOID DISEASE (*Newlands*).—It is not unusual for Celery to be attacked by a fungoid disease. It is the Celery fly and grub which prove so disastrous to Celery crops once they are attacked by them. For destroying fungoid diseases we know of nothing better than to spray the plants with Bordeaux mixture, which may be obtained of any seed merchant or sundriesman. For destroying the Celery grub the only effective remedy is to crush the grub inside the leaf with the finger and thumb, cutting away the affected part and burning it. Regarding the bush fruit, where the growth of branches is so dense, as with you, we advise you to shorten the side branches to within 5 inches or 6 inches of their base, but not to expose the fruit too much to birds and weather if it is still on the bushes.

MISCELLANEOUS.

INCREASING ALLOTMENT RENT.—I have occupied an allotment for several years, 5½ roods—[? Rods.—ED.]—at a rental of 5s. 4d. per annum, payable March 25. On March 19 the landlord sent notice that the future rental will be 8s. 3d. per annum. Is he justified under th Defence of the Realm Act to do this? He also has let a number of new allotments at the same rental. Is this

correct? If not, please say what action should be taken.—RETRAC. [From the wording of "Retrac's" letter it would seem that a private arrangement has been made with the owner of the land; and, if that be so, we fear nothing can be done. If, on the other hand, the land was "commandeered" by a local allotment authority under the Cultivation of Lands Orders 1916 and 1917, only sufficient rent may be charged by the allotment authority (*i.e.*, the local Urban District Council) as will recoup them for any outlay they are called upon to make in connection with the laying out of allotments. As a general rule, allotment authorities have little or no outlay. Briefly, therefore, if a private arrangement has been made with the owner, nothing can be done. If the land is being cultivated under the above Orders through the local allotment authority, only a nominal rent should be charged, unless the local authority has been put to some unusual expense.—ED.]

NAMES OF PLANTS.—*Curious.*—1, Spiræa Douglasii; 2, Rosa rugosa germanica; 3, Double Raspail; 4, Galaxy; 5, Alexandre Girault; 6, Newport Fairy; 7, Wedding Bells.——*The Agricultural Labourer.*—Phacelia campanularia.——*Mrs. B. A. J.*—Yes, Origanum hybridum. It cannot be raised from seed.——*J. F. A.*—1, Campanula carpatica; 2, Hemerocallis (too far gone to identify); 3, Iris fœtidissima variegata; 4, Primula Poissoni; 5, Astilbe Davidii; 6 and 7, Campanula carpatica vars.; 8 and 9, Veronica Spicata vars.; 10, Cytisus hirsutus; 11, Epilobium Fleischeri; 12, Aquilegia hybrid.

PLEASURE IN POTATO SPRAYING

FORTUNATELY, Potatoes are looking very promising and there is little evidence of *the* disease. But readers should be warned that it is not too late for this evil pestilence to make its

SPRAYING POTATOES.

appearance among the maincrop and late Potatoes. Those who have not sprayed should do so without further delay. The United Brassfounders and Engineers, Limited, of Manchester, manufacture at their Birmingham branch a large assortment of machines suitable for all spraying and limewashing purposes. We have seen the knapsack spraying machines in use and know them to be effective. Moreover, the comfort with which they are carried and the fine mist-like spray which never fails, and the ease with which the pump works, render spraying a pleasure instead of a trying occupation.

There are other pests besides the Potato disease for which these spraying machines will be required. The action of the Food Production Department—their recommendations and distribution of machines—has given a remarkable impetus to spraying the Potato crops, and there is reason to believe that this effort will be extended to other vegetables and fruits subject to those insect and fungus attacks which may be kept in check by timely spraying.

SOCIETIES

BORDER CARNATIONS.

THE ANNUAL EXHIBITION.

CONSIDERING the times, the annual exhibition of the National Carnation and Picotee Society (Southern Section), held on July 17th at the London Scottish Drill Hall, Westminster, was a conspicuous success. An outstanding feature was a very finely staged display group of cut blooms in extensive variety by Mr. H. Lakeman of Thornton Heath, for which a gold medal was awarded. I hope to see such exhibits freely developed in future years, as it would add sensibly to the popularity of the Carnation as a garden plant, and certainly it enhances the value of the show from a spectacular point of view.

DIVISION I.

Passing to the competitive classes, Mr. A. R. Brown of King's Norton was the only exhibitor of bizarres and flakes in the first division, and he had also no opponent in the class for white-ground Picotees. Of the latter, Mrs. Twist and Fortrose were beautiful flowers, and I cannot help thinking that the new method of showing without cards is a great improvement. Now they are really flowers and not mere decorations. No. 3 was a strong class, six dissimilar selfs being staged by a number of the noted growers. It must have been difficult for the judges to decide who should have premier position here, Mr. Lakeman and Mr. Douglas of Great Bookham having quality very nearly alike. If anything, Mr. Lakeman's flowers looked fresher, and he was awarded first prize, the new scarlet self, General French, being notable. In Mr. Douglas' lot The King, Purity and Mrs. P. R. Smith (premier self) were very good. Mr. Brown was third, his collection including the new white Prairie Belle. I think this flower should be called Bellfield White, as it was raised by the keen florist who cares for the Bellfield Estate, near Kilmarnock in Ayrshire, and, I believe, was so christened by him. It is a nice flower of pure colour, but the petal lacks the texture of Bookham White, nor is it so finely shaped as Purity, shown by Mr. Douglas.

For six fancies other than white ground, Mr. Douglas won with splendid examples of Lieutenant Shackleton, Lord Steyne, Pasquin, Cyclops, Edenside and Mrs. Penton. Mr. Lakeman, in second place, had the premier yellow-ground fancy in Lord Steyne. His Pasquin and Skirmisher were also very good. Mr. Brown was again placed third. In white-ground fancies Mr. Lakeman and Mr. Brown took first and second places. A number of very beautiful flowers belong to this section, among those shown being Lord Kitchener, Daisy Walker, The Bride and Gipsy Love, the last named a sweet little thing, but too small to take a commanding position.

Class 6, for six yellow-ground Picotees, was well contested, Mr. Douglas leading with good samples of Mrs. J. J. Keen, Eclipse, Santa Claus, Exquisite, John Ruskin and Togo (premier heavy edge Picotee, yellow ground). Eclipse was very good, as were Mrs. Keen and John Ruskin. Mr. Lakeman and Mr. Brown followed with second and third places.

DIVISION II.

In this division the competition was lively, a group of our best amateur growers vying with each other for premier honours with fine spirit. Mr. Keen of Southampton, the new secretary of the society, but a veteran grower of much experience and great success; Mr. James Fairlie of Acton, Mr. Frostick of Norbury, Mr. Robert Morton of Woodside Park, and Miss Shiffner of Lewes all showed flowers of high excellence, worthy of any period in the history of the Carnation Society. In the class for flakes and bizarres Mr. Keen was first, his blooms including a fine example of Merton, which gained premier for the best flake or bizarre in the show. Mr. Fairlie was second, Black Diamond and J. S. Hedderley being notable; and Mr. Frostick third with a fine Robert Houlgrave in his lot. White-ground Picotees (Class 8) made an attractive display, Mr. Keen leading again, John Smith (premier heavy edged), Perfection and Clytie (premier light edged) being almost perfect. Mr. Frostick was a close second, two of his flowers, Quaker Girl and J. Ward, showing fine quality. Mr. Fairlie was hardly inferior, presenting Fair Maiden, Amy Robsart and Lavinia. The class for selfs (No. 9) is always a popular entry, and Mr. Frostick gained honours here with Mrs. George Marshall, General French and Daffodil, the last named not so good as it usually is. Mr. Fairlie, in second place, had a fine Daffodil, backed up with Gordon Douglas and Bookham White; Mr. Keen third with Bellfield White (Prairie Belle), Miss Rose Josephs and Fujiyama. Fancies other than white ground (Class 10) showed the new Melba in Mr. Frostick's winning set. It is a shapely yellow-ground fancy with rather heavy markings, chiefly on the margin, of purple and crimson. His other blooms were Lord Steyne and Becky Sharp. Miss Shiffner was second with Pasquin, Lieutenant Shackleton and Linkman; Mr. Fairlie third with Mandarin, Lord Steyne and Pasquin. Mandarin is a flower I used to have quite an affection for, and it looked very well in this group. Class 11, white-ground fancies, was a disappointing entry this year, Mr. Frostick and Mr. Morton taking first and second places. Yellow-ground Picotees were better staged, and in this class (No. 12) Mr. Keen led, with Mr. Frostick and Miss Shiffner following in the order given. Mr. Keen's Eclipse was magnificent and well earned for him the award of premier bloom in light-edged Picotees of yellow ground. I have said some hard things of this fine Picotee in the past, and I maintain it is not everyone's flower *to grow*, but when it *is* grown well there is nothing to touch it as a staged bloom. I have never seen it to such great advantage in previous years, and if it were only more robust—but there, if it was, it would not be Eclipse. Professor Burstall, a Midland variety, was also shown by Mr. Keen in this same class, and it looked almost a different variety from the sample put up by Mr. Brown of King's Norton in Division I. It is beyond question a pretty flower, but the yellow ground is not very constant, a couple of days' exposure paling it out to almost a cream shade. Mr. Frostick and Miss Shiffner were the other winners, the former also showing Eclipse well.

DIVISION III.

The six classes of this division, open to amateurs growing not more than 300 plants in pots, offer the valuable Martin Smith Memorial Cup for one year. Mr. Pinnock of Ilford and Mr. Webb of Thornton Heath were very close competitors for the honour, the former winning on points, but with an extremely close margin. I was pleased to see Miss Kingsford of Fulham showing this year. She is an excellent judge of Border Carnations and an entertaining writer concerning them. Her best exhibit was for three fancies, in which she had good blooms of Othello, Fair Ellen and Centurion, all grown in the open, I believe.

There were ten classes open to all growers, and these always produce interesting entries. For six pink or rose selfs Miss Shiffner had very fine flowers, but somehow she put up Innocence, which is pale flesh colour and not purely a self, so she had the misfortune to be disqualified. Mr. Douglas was second with Rosetta, a beautiful rose self with a wonderful stem, almost as strong as a piece of wire; in the open border it needs no staking whatever. Mr. Brown had Salmonea in third place. In white selfs Mr. Douglas led with Albion, an almost white of smooth petal, but not too many of them. Mr. Frostick won in the maroon class with Mrs. George Marshall, one of the greatest prize-winning flowers ever raised. Mr. Douglas showed Sulphur for his yellow selfs and took first prize; but where is the glory of Daffodil this year? I fancy it is late and it may come in well at Birmingham.

Red or scarlet selfs were best represented by Fujiyama and General French, Mr. Douglas being first, Miss Shiffner second with the former, and Mr. Frostick third with the latter. Buffs or terra-cottas are a limited class, and Elizabeth Shiffner was shown in each winning stand, the order of merit being Mr. Douglas, Mr. Frostick and Miss Shiffner. For selfs any other colour Mr. Douglas was a fairly easy first with Grey Douglas, the best-petalled lavender flower I have yet seen, and with a fine scent.

Mr. Frostick was good with Eclipse in yellow-ground Picotees, Mr. Douglas being second with Onward. The last two classes were for fancies, and in the yellow or buff ground section Mr. Morton had six very fine blooms of Skirmisher, taking first prize, but followed very closely by Mr. Frostick with Lord Steyne, as good samples as I saw in the show. In white-ground fancies Mr. Douglas, though only earning third place for his six blooms, had one magnificent Daisy Walker which proved to be the best in the hall, and was marked premier of this section of fancies. Mr. Douglas also won the Cartwright Cup, as he has so often done before. Altogether it was a show of encouraging merit in spite of a backward season, and I see every chance of the society growing in popularity and usefulness under the able secretaryship of Mr. Keen. I am sure that gentleman will be happy to send full particulars to any enquirers who think of joining. His address is 54, The Avenue, Southampton. J. L. GIBSON.

SOUTHAMPTON SUMMER SHOW.

IN delightful weather and in the beautiful gardens of South Stoneham House, Swaythling (kindly lent for the occasion by Ellen Lady Swaythling), a very fine exhibition of fruits, flowers and vegetables was held on Wednesday, July 11. The officials of this old and widely known society are to be congratulated on their venture, which proved a great success. As usual, everything was in order for the convenience of exhibitors, judges, the Press and the public. Many classes were provided for vegetables, and these were filled with excellent produce Much of the latter was sold for the benefit of the Red Cross Society and the Order of St. John. Messrs. Toogood and Sons, Southampton, almost filled the centre of one large tent with a splendid collection of vegetables, tastefully staged, and these were also sold for the same purpose. Messrs. W. H. Rogers and Son, Limited, Red Lodge Nursery, Southampton, had great banks of Roses and a charming water garden. Messrs. B. Ladhams and Sons, Limited, Shirley, Southampton, also put up a grand lot of Roses and herbaceous flowers and plants; and Mr. E. Wills, Southampton, filled one side of a tent with a collection of greenhouse plants.

COMPETITIVE EXHIBITS.—ROSES.

Mr. Elisha J. Hicks, Hurst, Berkshire, won in the class for thirty-six blooms, distinct varieties. George Dickson, Florence Forrestei, Naarden, Mrs. George Norwood, Caroline Testout, E. Mawley and Snow Queen were the finest blooms. Second honours went to Messrs. D. Prior

and Son, Colchester, who had noteworthy blooms of H. V. Machin, Florence Forrester, G. C. Waud, Lyon Rose, Edward Bohane and Walter Speed. Mr. Hicks also won with fine blooms in the class for twelve varieties, three trusses of each. Fisher Holmes, Mrs. W. C. Miller and Mrs. George Norwood were very fine. Messrs. D. Prior and Son were second. For twelve blooms, Teas or Noisettes, distinct, Messrs. Prior were first. The varieties Mrs. Myles Kennedy, Auguste Comte and Mme. C. Soupert were full, splendid blooms. Second, Mr. Hicks. The last named had the best blooms of one red variety, staging Auguste Hartman. Messrs. Prior staged Leslie Holland and won second prize. Messrs. Prior staged Lady Barham in the class for six blooms, pink, and won first prize. Mr. Hicks won second honours with Mrs. George Norwood. Mr. Hicks had twelve splendid vases of garden Roses and won in this class; Mrs. Dunlop Best, Mrs. Alfred Tate, Princess Mary, Isobel, Mme. A. Chatenay, Red Letter Day, Iona Herdman and Charles E. Shea were very fine. W. H. Myers, Esq., Swanmore Park (gardener, Mr. G. Ellwood), was second. Mr. Hicks again scored in the class for three baskets of cut Roses, having Queen of the Belgians, Red Letter Day and Joanna Bridge; second, Messrs. Prior. The best dinner-table of cut Roses was arranged by Mrs. C. M. Burnett, Southampton; second, Mrs. E. Ladhams. Mrs. Burnett had the winning vase and basket of cut Roses, respectively. In minor classes Captain R. Kilbee-Stuart, Newbury; Daniel Seaton, Esq., Lymington; and A. R. Reeves, Esq., Gosport, were the successful exhibitors.

SWEET PEAS.

S. F. White, Esq., Eastleigh, was the most successful exhibitor. In the class for six distinct varieties he staged Royal Purple, Jean Ireland and Hercules in grand form. For nine distinct varieties (prizes offered by Messrs. Toogood and Sons) the Hon. Albert Hood, Southampton (gardener, Mr. C. Goodchild), was the winner. The varieties Barbara and President were beautiful. He also won in the class for six bunches of Sweet Peas, the prizes being given by Messrs. Sutton and Sons, Reading. Mrs. S. F. White had the best dinner-table decoration of Sweet Peas.

CARNATIONS.

These were not extensively shown, but the blooms staged were fresh and good. Captain V. Birch Reynardson, Southampton (gardener, Mr. G. Cousins), won in the class for three vases of yellow-ground Picotees. For four vases of selfs, fancies and yellow-ground Picotees, H. W. Frostick, Esq., Norbury Crescent, London, was first. He staged Bookham White, Gordon Douglas, Eclipse (premier Picotee) and Melba (premier fancy). Second, Captain Birch Reynardson. Mr. Frostick had the two best vases of selfs and two vases of white-ground Picotees, respectively; also the two best vases of fancies. Mr. Myers had the winning four vases of Tree Carnations—Rose Pink Enchantress, Mrs. R. F. Felton, Countess of Lathom and Baroness de Brienen; he also won in the class for three vases. In the class for the best vase of tree or border varieties, C. W. Greenhill, Esq., was first.

FRUIT AND VEGETABLES.

Mr. Myers scored in the class for a collection of fruit, four dishes. The Black Hamburgh Grapes, Emerald Green Melon, Brown Turkey Figs and White Heart Cherries were splendid. Ellen Lady Swaythling (gardener, Mr. T. Hall) was second, and Mr. A. F. Tofield third. Mr. Myers had the winning bunches of Grapes in the classes for two bunches of black and two of white. In the classes for Peaches and Nectarines, Captain Maldwyn Drummond (gardener, Mr. Lewis Smith) was the winner. Mr. Myers had the best Melon, dish of Tomatoes and brace of Cucumbers, respectively. He also won premier honours in the four special classes for collections of vegetables, namely, those the prizes for which were offered by Messrs. Toogood and Sons, Messrs. Sutton and Sons, Messrs. James Carter and Co., and Messrs. Webb and Sons. For a collection of garden produce Mr. H. Broom was the winner. He staged Onions, Cauliflowers, Cucumbers, Potatoes, fine Apples, Gooseberries, Black Currants, Beet, Lettuce, Carrots, Vegetable Marrows and Tomatoes. Mr. S. F. White staged the best half-bushel of Potatoes and dish of Broad Beans; Mr. H. Broom, the twelve best Carrots and twelve Onions; Mr. W. J. Stickley, the two best sorts of Potatoes; and Mr. S. F. White, the twelve best Potatoes, one variety. All these classes were open to amateurs, cottagers and allotment holders.

NON-COMPETITIVE EXHIBITS.

Gold Medals.—To Messrs. Toogood and Sons, Southampton, for a collection of vegetables and salads; Messrs. W. H. Rogers and Son, Southampton, for Roses and a water garden; and Messrs. B. Ladhams, Shirley, Southampton, for Roses, herbaceous plants and cut flowers.

Silver-gilt Medal.—To Mr. E. Wills, Southampton, for miscellaneous greenhouse plants.

Silver Medal.—To Miss Rayner, Southampton, for Tomatoes and home-made jam.

BOOKS

Fruit Growing for Profit.*—These text-books are being issued for the benefit of the grower of fruit for market; the grower in a small way of business; and in view of the move that is being made in the direction of providing small holdings for our returned warriors and others [illegible] what work on the subject of fruit growing one take up, it is, as a rule, a cross between the amateur and the commercial, and likely, if followed by the would-be commercial man, to lead to a nondescript product. The important amateur side of fruit growing, &c., has been well served, and the publishers desire, in the new series, to keep the commercial branch of gardening and fruit growing entirely distinct and separate from the amateur, the main idea being that the grower for profit may with confidence adopt any of the methods recommended and feel that he is going right. So says the preface. Nevertheless, and apart from the fact that the books are written mainly for the benefit of the small man who grows fruit for market, there is much that should be of equal value to the amateur gardener and the large commercial grower. The volumes are small, but lucidly and concisely written. The author is also very conscientious, and neither wastes words talking about nothing nor brings forward impractical suggestions. No person venturing the risk of fruit growing would be likely to go astray if he thoroughly masters the text and follows the advice therein contained. The subject is dealt with in a thoroughly practical way, from choosing the site to methods of packing and marketing the fruit.—L. M. MARSHALL.

* "Commercial Fruit Growing on the Small Holding" and "Commercial Strawberry Growing," by W. F. Emptage. Published by Benn Brothers; price 1s. each. cloth edition, 1s. 6d.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

A CORRESPONDENT takes me to task this week on two items: (1) egg-preserving and (2) egg-eating.

Egg-Preservation.—Below will be found an extract from his letter, and this will enable readers to follow the pointers at issue:

> I do not think much of the suggestion made by Mr. E. A. Bunyard—[April 21 issue.—W. P. O.]—in regard to the storing of eggs in compartments under water-glass, as the difficulty of having the freshest eggs on top still remains. I always preserve eggs in the old-fashioned way, viz., *lime-water* and not water-glass, and I find that the eggs keep well for a year,
>
> I have four pans, each holding 200 eggs, and after about two months a sort of *general post* takes place. The eggs from No. 1 are emptied into a reserve pan, the bottom eggs being brought to the top. Those in pan No. 2 are transferred in like manner to pan No. 1 and so on. This process enables one to detect and remove any eggs found to be cracked, as these, if allowed to remain, would in time spoil the whole panful.
>
> I have seen it stated that if water-glass is used, the eggs must not be disturbed. If this is true, the water-glass system has two serious defects. I keep about seventy head of poultry for table use and eggs.

Adopt Commercial Methods.—In the preservation of eggs there is, I admit, the drawback of finding the freshest eggs on top at the time when the eggs are removed for use. This is aggravated by the fact that few really understand their A B C of egg-preserving. The majority select receptacles that are much too large for their purpose, instead of bearing in mind (1) the number of fowls kept and (2) the number of preserved eggs likely to be used within a given time. It is half the battle, where the eggs are placed in tiers, to select receptacles that will hold the eggs likely to be gathered within two or three days, and then each pan can be filled with its quota. If I kept seventy birds I should prefer pans to hold 100 or 120 eggs. If the eggs are of about equal age when put in, they can be withdrawn for use as desired, since the length of time during which eggs can be left in preservative runs up to twelve months or so. In using them one can therefore be guided by the number of eggs put down. The best method of preserving eggs is that adopted commercially. Shallow concrete pans are let into the ground, the eggs being arranged in double tiers with about 2 inches of the preservative over them. If a cool cellar or outhouse is handy and a goodly number of eggs are to be preserved, it would pay to instal such receptacles, the eggs being placed in within so many hours of being laid.

General Post.—My correspondent's "general post" method would be improved if he could put his eggs in galvanised wire trays within each preserving pan. The trays would be placed one above the other, and this would facilitate the changing of positions. There are two good points I see in Mr. Bunyard's ×-shaped galvanised wire arrangement. In the first place, if my correspondent's "G. P." method were adopted, one of the compartments could be left empty to do away with the special "reserved" pan. This empty compartment would allow of the eggs being shifted up. Secondly, eggs of approximately one age could be placed in each compartment and "dated" accordingly. It will be clearly seen that if 100 eggs are put into an undivided pan, supposing that number were obtained in eight days, the bottom eggs will be eight days old and the top ones a day old. With the pan divided into four compartments there will be but two days' difference in age in each lot of twenty-five eggs.

Cracked Eggs.—If the eggs are carefully tested when put into the preservative, there is no need again to handle them. In egg-preservation the secret of success lies in putting down the proper material. Every egg should be thoroughly examined, and only clean and sound ones preserved. If no male birds are running with the hens, so much the better. Again, a cool storing-place must be selected and a cover be placed over each pan. In the majority of cases cracked eggs are the result of placing too many eggs in each receptacle. I prefer separate lots of 100 eggs, with 150 as the maximum. It will be seen, therefore, that success in egg-preserving depends upon putting down sound eggs, using the right kind of receptacle, and selecting a cool storing-place. Each egg should be tested before a strong light, not only when put into the preservative, but also before use, and the quality of its contents noted. An expert eye will readily detect any thinness or irregularity of shell formation. There is, of course, no harm in making a test during the course of preservation if the operator so desires.

Water-Glass v. Lime-Water.—My correspondent can rest assured that water-glass is much superior to the old-fashioned lime-water process. All tests have proved this, although I may safely say that lime-water is a good second. It is a fallacy to suppose that eggs placed in water-glass must not be disturbed. This preservative very quickly closes up the pores in the egg-shell, rendering the handling of the eggs then absolutely safe. Eggs must, of course, be handled with clean hands or gloves prior to being put into the preservative, and dirty eggs should in all cases be discarded. For the latter reason clean nests are essential, and the eggs should be gathered almost as laid. If this plan is not adopted, eggs which broody hens have cuddled will "turn" in all probability. The choice of preservative must, I think, be left to the merits of the finished article. It is here where the water-glass eggs beat those taken from the lime-water. They are fresh and milky and full-flavoured, whereas those taken from lime-water will in all cases be found to be "flat" and without flavour in comparison. Water-glass will be found to be the basis of most preservatives on the market, and its thorough preserving powers will be understood when I say that eggs taken out of water-glass have, when thoroughly cleaned, been known to hatch; this, too, after the eggs have been "down" more than six months.

Egg-Eating.—The other criticism is in regard to egg-eating, and an extract from his letter reads:

> If one carries out your instructions—[February 17 issue, I presume.—W. P. O.]—it would be necessary to watch the fowls very closely indeed, which would take up a lot of time, and even then the chance of finding the culprits would be very remote. My plan is a very simple one. I place one, or perhaps two birds in a small house with an egg in the nest-box. I am then able to find out the egg-eater without much difficulty.

In the article in question I dealt rather with the steps to take to prevent the habit of egg-eating from entering the roost. This is one of the vices where *prevention is better than cure*. I am surprised that my correspondent should be so careful in *preserving* his eggs and yet begrudge time spent on detecting *egg-eating*, which should really be another method of preserving eggs. I must congratulate him on his good fortune in never having had serious trouble from this vice; no doubt his excellent management has been responsible for this. The isolation of each layer would soon bring disaster to the egg-supply if regularly practised. Nothing would put the birds—pullets especially—off the lay sooner than this shifting to new quarters. Again, harm might follow the handling of the birds if any were carrying eggs "low" at the time. Once in full lay, the least the layers are disturbed or excited, the better from the view-point of egg-production.

To Detect Egg-Eating.—Where egg-eating is suspected, it is by far the best plan to watch the nests during laying-time through an aperture in the house, and isolate for treatment all culprits discovered. A hen subject to egg-eating will keep an eye on any bird that is in the next-box and will fly up after the egg directly it is laid. Should this vice spread through a flock of layers, the only certain remedy is to instal special nest-boxes which possess a hole in the bottom, through which each egg as laid passes out of sight and reach to a compartment below. That means expense, which can be saved if the owner is watchful. I have known owners who have in disgust killed off their birds because, through neglect, they had all learnt the egg-eating habit. To the progressive poultry-keeper who is desirous of the best results, nothing should be too troublesome. It is attention to detail which scores so heavily! I repeat the precautions I originally gave to prevent egg-eating: Provide shell *ad lib.* to prevent soft-shelled eggs being laid; see that nest-boxes are deeply lined with material to guard against breakages; adopt dark nests where the hens cannot see the eggs they lay; collect the eggs as often as possible; and do not allow the layers to get over-fat and, in consequence, lay soft or abnormal eggs.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN *20, Tavistock Street, Strand, W.C.2.*

HOW TO MANAGE THE GROWING STOCK

IN the handling of the growing stock it is well to remember that the future breeder or layer is what the rearer moulds it during the stages of growth.

Adopt a System.—There is more than meets the eye in this handling of growing stock from chickenhood to pullethood. Everything should be managed on systematic lines. First we have to start with a "hatchable" egg from which to get the "rearable" chick, but having seen to this the owner's prowess does not end here. The best results in rearing are obtained where the youngsters are systematically moved to pastures new, and this should not prove a difficult task. Some kind of *group system* must be adopted, and to enable this to be carried out we must bear in mind two items, viz., sex and size. In the early stages especially it is highly important to group the chickens into sizes, for the very reason that if smaller-sized chicks are allowed to run with the larger ones they will be bullied by the latter and not get their proper share of food. The usual practice has always been to run the chicks in flocks according to their ages, but this is not advisable.

Backward Youngsters.—In all flocks there are a certain number of chickens which appear backward, and yet with care these very youngsters will quickly catch up the more forward ones. I do not, of course, suggest that weakly chicks should be so coddled as to catch up their brothers and sisters of the same hatching. In fact, my slogan is, and always has been, "Breed well and kill well"; it is more profitable in the long run. It is very unwise to bestow time and care on an obviously weakly chick which may die when half grown and prove to be a dead loss. Again, the chances are that later on that weakly chicken which has been coddled and handled like a hothouse plant will be selected for its beautiful outline to head the most important breeding pen. Only when infertile eggs and weakly chicks are the result of the mating will the owner realise the mischief caused by coddling that poorly bred chick. There are other backward youngsters I have in mind, such as those that feather badly and those smaller chickens (always the pullets) which are pushed about at feeding-time by the greedy cockerels and bullied by them, males predominating in the flock. If the rearer is guided in his grouping by size rather than age and runs his cockerels and pullets in separate flocks, he will be proud of his young poultry stock when they reach maturity.

Telling the Sexes.—Personally, I prefer to separate the sexes when the chickens are two months old, but at that age it requires an expert eye. The continual handling and sorting out of young chickens will bring the much-needed experience. The novice must experiment, and if he makes any mistakes he can easily rectify them later when the chickens are older. At eight weeks old I usually go by the build of each chick. The cockerels will have thick legs, large heads and short, stout necks; while the females will be of slender build throughout. As the youngsters get older the legs in the males seem to "sprout" and the birds become lanky and *out of proportion*. The head points redden up sooner in the males than in the females, and are much larger. One cannot go with accuracy by the growth of the tail and body feathers, as so many poultry authorities aver. It is because poultry-keepers invariably go by these tests that they become "fogged." No two chicks seem to feather alike, *i.e.*, in all respects. I have certainly experienced the fact that those chickens which feather badly on the wings, shoulders and back are invariably cockerels, provided parasites are not the cause of the poor feathering. The quickness with which chickens become completely feathered, in my opinion, depends upon the breed. Leghorns, for instance, seem to be in full feather long before they leave their teens.

Carriage of Wing.—The shape and carriage of the wing often decide the question of sex in my case, but, as I have said, one must be taught by experience as to the points to be guided by in each individual breed. In the female the wing as a rule fits neatly into the side of the bird, and it is rather broad in shape throughout. In the male the wing-ends often protrude beyond the bird, sometimes even touching each other, and that compact fit so characteristic of the female's wing is absent. The ends, too, taper and each wing is long and narrow. In the light or non-sitting breeds the headgear is the best guide for the novice. In the male the head points begin to redden up quite early, and the comb and wattles are many times the size of the female's head points.

AMID NATURAL SURROUNDINGS.

A charming snapshot showing a flock of Light Sussex pullets on the Rev. Crawshay's farm at Melchbourne, Bedfordshire.

Another of my methods is to apply the following tests in cases that are doubtful: Throw some grain on the floor, and the cockerels among the flock will be most prominent in "hurdle-jumping" over the other birds to secure double their share of food. Again, while the young birds are feeding, gently tap each bird on the back with a light cane. The cockerel will squeal like a naughty boy being spanked, whereas the note of the female will be more pleasant and comely, very much like "Pretty Dick." A careful examination of the legs will, in the male, reveal a large circular scale on each leg which is ultimately to carry the spur, but this is another test for the more experienced. Anyhow, I think the novice will fathom the sex problem from the advice given.

Age to Perch.—By the time the chickens are four months old they can be quartered in ordinary poultry-houses or in intensive structures. Perches, too, can be provided for them. Early perching should not be encouraged, since, although opinions differ, it is apt to cause crooked breasts. At four months old, however, the birds can be allowed to roost. The perches must not be of the thin, round type, but oblong in shape and reasonably wide, say, 1½ inches in width and 1 inch in depth. They should be placed quite low at first, only about a foot off the ground, and as the birds get older the roosts can be raised. Young birds will not in all cases take to the perches without a little assistance. It is often advisable to place the birds on the perches at roosting-time for several nights in succession, and to have a final look round on one or two further evenings to make sure that all are on the perches and comfortable. Do not lose your patience if two of the little eggars jump down every time you put two up. They soon find out what is expected of them if the owner goes the right way to work. Training should take place as darkness sets in.

Ground-Roosting.—Up to the age of four months the youngsters can be allowed to perch on the floor of the house, provided it is well littered and cleanliness is observed. Where, however, the birds are permitted to sleep on the ground, the corners of the house should be filled in for a little distance up to prevent crowding. This crowding into corners not only makes the birds sweat and become liable to outbreaks of colds, &c., but also in some cases results in a bird being crushed to death. With young growing stock, especially if they are scantily feathered, one must take care to see that they are not shut out in the run at night, otherwise they may be found dead in the morning, due to lung or other troubles. Cold nights are very treacherous for growing poultry, and they should be counted each night.

Crop and Eggs.—There are two items which ultimately have an important say in egg-production, viz., crop and egg-organs. It is not generally known that the hen with the biggest crop lays the largest number of eggs, although it is very true. We must be careful, therefore, not to stint the pullets for food from the time they are four months old until maturity is reached.

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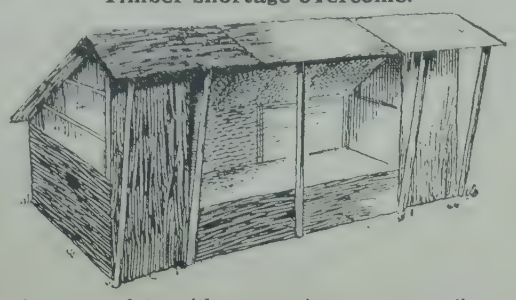

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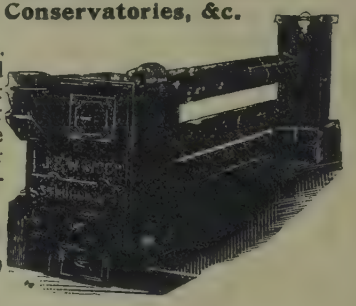

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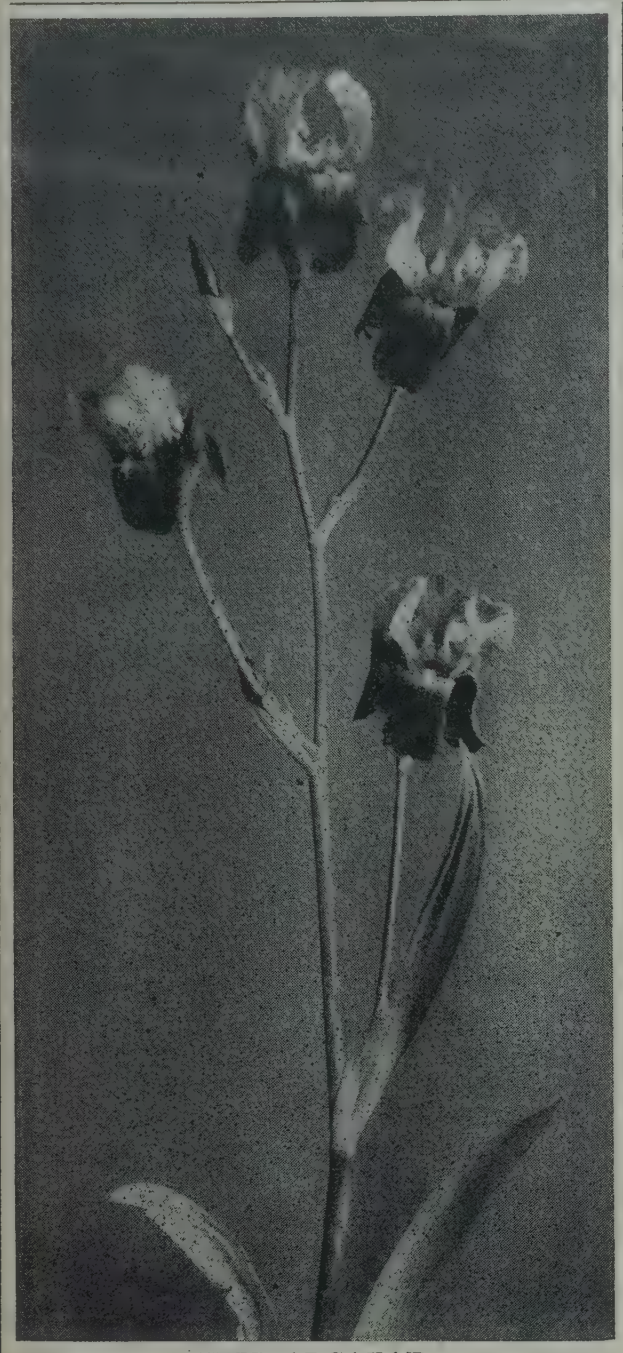

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THE GARDEN.

No. 2386.—Vol. LXXXI.] [August 11, 1917.

NOTES OF THE WEEK

PERHAPS the most general fault to be seen in allotment gardens throughout the country is overcrowding. The desire to make the utmost use of the land available is partially accountable for this, but, like so many virtues carried to excess, overcrowding is apt to defeat its own ends. Overcrowded plants cannot develop to their fullest extent; they are apt to run to seed, or they become hard instead of retaining their fleshy, usable characteristics for a considerable time, or they grow weak and spindly, and anything but desirable in the way a luscious, well-grown vegetable is desirable.

The Error of our Ways.—Now is the time to take stock and to see where mistakes made this year may be rectified in planning our planting next year. Have we chosen those compact, neat-topped varieties that take comparatively little room for the produce they yield? They are to be found among Radishes, Carrots, Parsnips, Beet, Cabbages, Potatoes and other desirable kinds. Or have we been content to plant coarse-growing varieties that elbow out other plants and occupy ground which might have been growing other plants? Have we had our rows too closely together? Or, most likely of all, have we sown our seeds too closely together and lacked time, when the plants became large enough to thin, to do the work, and courage to destroy enough of the seedlings that came so thickly, so as to give the remainder room? We have pointed out the remedy, and so convinced are we of the benefits to be derived from thin sowing, or rather from dot-planting, instead of continuous sowing in drills or sowing broadcast, that we do so again even at the risk of appearing tedious. We wish that, sometimes at any rate, the tops of the roots exhibited so finely at many of our village shows were shown as well as the roots, for they would help in the selection of varieties suitable for the small garden or allotment and add much to the educational value of the exhibition. Dot-sowing, early thinning out, and transplanting in suitable cases so as to give ample room for development and to check growth as little as possible are essential if undue waste is to be prevented and good crops secured.

A Plague of Cabbage White Butterflies.—Never before have we seen this common butterfly in such alarming numbers. The market gardens of Essex are literally alive with them, and the butterflies deposit eggs on almost all kinds of crops, even including Onions. The Food Production Society at Southend is offering prizes to boys and girls who catch the greatest number for the society's show in September. It is hoped that children in other parts which are suffering from a plague of this butterfly will follow suit in this entertaining and profitable pastime.

Meliosma cuneifolia.—The Meliosma family has received several additions during the last twenty years which raise it from a position of comparative obscurity to a place of some importance among hardy shrubs, for some species are conspicuous when in flower, while others are of considerable merit by reason of their handsome foliage. M. cuneifolia is a deciduous shrub at least 10 feet high, and probably twice that when mature, with handsome leaves up to 8 inches long and 3 inches wide, bearing freely during late June and July panicles up to 8 inches or so long of small, cream-coloured, fragrant flowers. A native of Western China, it was introduced in 1901, and flowered for the first time about eight years later. It is perfectly hardy and thrives in good, well-drained loamy soil in a moderately but not too sunny position.

A Rare Shrub.—A plant of Schizophragma hydrangeoides is at present flowering well near the Japanese Temple in the vicinity of the Pagoda at Kew. It is closely related to the Hydrangeas, and for many years H. petiolaris was almost invariably sold for the Schizophragma. The two plants have much in common in general appearance, for they both form long, scandent stems bearing aerial roots like the Ivy, by which trees 30 feet to 40 feet high are ascended or high walls covered. Moreover, there is a similarity in the large ovate or rounded leaves. The flowers, however, are different, for whereas the sterile flowers of Hydrangea have four showy bracts, each sterile flower of Schizophragma has but one yellowish white bract. The entire head of flowers may be 9 inches or 10 inches across. The plant thrives in loamy soil and is an excellent subject for planting over an upturned butt of a tree, against the trunk of a tree, or against a wall. A second species, S. integrifolia, is also bearing an inflorescence at Kew.

Escallonia langleyensis.—This is one of the hardiest Escallonias, being second only in hardiness to the deciduous E. philippiana. At the same time it is one of the most beautiful, and is available for planting against a trellis or to form a bush in the open ground. At maturity it is 10 feet to 12 feet high, with long, arching branches, the leaves being small, dark green, and evergreen or subevergreen, according to the severity of the winter. The rosy red flowers are borne in racemes 2 inches to 3 inches long during July, but a continuation of blossoms may be expected until September. It is of hybrid origin and originated in the Langley nursery of Messrs. James Veitch about twenty-four years ago, its parents being E. philippiana and E. punctata. Plants in the open ground passed through the recent severe winter uninjured. Loamy soil suits it.

Spiræa Spikes.—There is a world of difference in the shape of the spikes of the Spiræas which are usually forced in pots. There are the tall and graceful, and the short and fat. The introduction of coloured varieties was, we think, wholly good, and a very welcome change. We hope hybridists will now turn their attention to the production of long and slender spikes. Such spikes are a great gain, especially if they are to be used in vases. One of the most pleasing of the modern coloured varieties is called Philadelphia. Under glass the colour is a pleasing shade of rose. If at the first potting the soil has been good, with mild feeding during the ripening off stage, plants may remain two years in the same pots.

Sedum album.—There are several varieties of this good Stonecrop. The one shown, which appears to be known in nurseries as S. murale, is perhaps the best, and is a valuable plant for a rock or wall joint. Before the bloom comes the whole plant has a reddish bronze colour that is very pleasing, but when it is transformed into a flowery mass it becomes one of the best small things of the garden. It has, besides, the merit of being long lasting, the 6-inch-high blooming shoots rising quite early in July and remaining in beauty nearly the whole month. The little starry flowers are barely three-eighths of an inch across; they are pinkish white in colour with rosy centres, giving the whole mass a pink effect of charming quality, further helped by the also rosy stem and calyx.

A VARIETY OF SEDUM ALBUM.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

THE EVIL OF PLANTING POTATOES WITH A DIBBER.

I HAVE the pleasure of sending you a photograph showing very clearly the disastrous results of planting Potato tubers with a dibber. You may think it worthy of a place in THE GARDEN as an example to those who still employ this method of planting seed Potatoes. There are, I believe, a great many who do so in certain parts of the country, and I know it is still a common practice in this district. Some weeks ago I discovered that, quite unknown to me, and to my great annoyance, my gardener had used a dibber to plant nearly all my early seed. When I remonstrated with him, his reply was that he had used this method all his life, and he knew many good men who did likewise. He ridiculed the idea of any harm resulting. He tells a different tale now. I had four roots taken indiscriminately. From left to right in the photograph, 1, 2 and 3 got rather broken, but they were all, when taken up, just the same as 4, which shows very clearly how they came out of the ground—just as if they were taken out of a mould. Practically the entire crop from this piece of ground was ruined. With the exception of a very small number, where I insisted on having the seed properly planted, all the roots were in the condition shown in the photograph; some very much worse. The sides of the holes were so hard that considerable force had to be used to break them. They formed a complete mould in which the plant could not possibly develop, nor could the roots penetrate them. Our soil is light and sandy, and I should think in heavy soil the results would have been even worse. As it was, the yield from this piece of ground was almost nil. Very few roots had tubers larger than a Tangerine Orange. The strength of the plants seemed to go chiefly into the foliage and stalks or haulms.—CECIL A. P. OSBURNE, *The Grove, Old Catton, Norwich.*

POOR RESULTS OBTAINED BY PLANTING POTATOES WITH A DIBBER.

A POTATO EXPERIMENT.

THIS year I planted 14lb. of Sharpe's Express and 7lb. of British Queen; the former gave very much the best results under identical treatment. From the 21lb. of seed I got 3cwt. of Potatoes. I planted the greater part of them in drills 30 inches apart, and about 15 inches apart in the drills. The seed was mainly uncut. I also planted, as an experiment, three rows 15 inches apart, but this lot did very badly, the result being small Potatoes and very few of them. In the drills 30 inches apart the results were the best I ever had, not 1 per cent. of the Potatoes being small, and in many cases I had twenty-five splendid Potatoes to the root from Sharpe's Express. British Queen was not so good by 25 per cent. I am convinced that even with early Potatoes it pays to give much room. All the Potatoes were well earthed up, the space between the drills being ample for doing so. The land had not previously been cropped with Potatoes, having been used by me as a nursery for fruit trees. The only manure was decayed weeds and dissolved bones; I freely scattered the latter. The seed was dibbled in with a large-ended dibber at Easter and the crop taken up on July 28, quite ripe, free from disease, and very clean indeed. [If this is the result of planting with a dibber, what might the crop have been if planted with a spade?—ED.] The plot had sufficient potash from previous years' manuring. The gross yield would have been more if all the seed had been of Sharpe's Express and the three rows put 15 inches apart had been at 30 inches. —W. J. FARMER, *Redruth.*

PRIMULA NUTANS.

IN THE GARDEN of July 28, page 298, appears a very good illustration of Primula nutans. This Chinese Primula no doubt is very beautiful, but, I am afraid, like P. Reidii and P. Wattii, the Himalayan members of the same section—Soldanelloides—it will never prove a hardy perennial in the majority of gardens. Out of some 150 plants I wintered in a cold house there are at least forty in bloom at the present time. A few of those in flower were planted in the open and exposed to the weather during the past month. Those kept under glass and protected from rain have the corollas densely covered with white meal, but those standing in the open are darker in colour and show white markings. Taking one of the corollas that has not been exposed and putting it under a tap, you get the same blotches shown as on those flowering in the open. This, of course, is due to the farina being washed off. All the Primulas belonging to section Soldanelloides have leaves coated with soft hairs, a sure indication that they will resent the dampness of our winters. The same remark applies to the different species belonging to section Muscaroides. I have grown in quantity P. deflexa, P. Giraldiana, P. pinnatifida, P. Littoniana and P. conica. With me they do not make satisfactory garden plants, as they invariably damp off after flowering.—JOHN MACWATT, *Morelands, Duns.*

A VISIT TO THE MAKURI GORGE.

I HAVE lately been on a visit to the Makuri Gorge, near Paihiatua, in the North Island, and was much struck with the variety of grassy trees down to grassy plants that grow there, and think perhaps some of THE GARDEN readers might be interested to hear about them. I begin with the smallest—Libertia ixioides, with its three-petalled blossoms about as big as a sixpence, short, stiff leaves, and followed afterwards by bunches of dull orange berries. Next in size perhaps is a little Orchid growing on the trunks of trees, with very small spikes of sweet-scented orange or yellow flowers; the leaves are long and narrow, dark green, and arranged at intervals along the stem, at the end of which come the orange flowers. Then there grows a kind of Pampas Toi-toi, a short sort with beautiful plumes of brown or biscuit coloured heads. It is prettier than the ordinary tall-growing Toi-toi with taller, hay-coloured plumes, being less coarse and smaller and neater in habit. The Flaxes that grow there, too, are different to the swamp ones which grow 6 feet high and have dark red blossoms; these have shorter, paler leaves and spikes of blossom of either a pale green or greenish yellow. Then comes the greatest treasure and, I think, one of the queerest plants in existence—the Freycinetia, or Climbing Cabbage Tree, in bloom. I had scrambled through a piece of bush to try to get to a place to look down a waterfall, an almost perpendicular scramble at the top. I looked down, and just below me was the Freycinetia growing and in bloom with its pure white spathes and centres—six, I think—like large, broad, flattened centres of the Arum Lily. At first I thought it was a queer kind of Cabbage Tree that someone had taken the heart out to eat, but when I looked again I saw it was the bloom, and, managing to break off a piece of the plant, noticed the roots sticking out of the thin trunk and the very long leaves, rather spiky up the edges, that completely

AT RAMSEY, ISLE OF MAN, CORDYLINE AUSTRALIS FLOWERS AND PRODUCES AN ABUNDANCE OF SEED.

encircled the bloom. I brought the treasure home here, but I am afraid it has died. Then come the Cabbage Trees, the smallest, Cordyline Banksii, well named, not because of Sir Joseph Banks only, but also because it invariably grows on a bank. It is very handsome and has larger and looser spikes of flower than C. australis. The bloom is usually white, but we found one with a mauve pink head of bloom—one of the most beautiful things I have seen. The pinkish blossoms, buds like mauve pink Job's Tears in shape and size, and the flower-stalks deep pink, it was a sight showing above and among its fine long leaves. We picked a lot of the blossom and put it in water, when it lasted fairly well. A tall C. Banksii is only about 10 feet. It is fairly hardy, as I have one growing on a bank here, and it blossomed well. Unfortunately, it is the white one. The pink I have only seen this once. The Bastard Cabbage, a supposed cross between C. Banksii and C. australis, is also beautiful. The heads of foliage are lighter-looking than those of C. australis, and so are the bunches of blossom. Then comes the ordinary C. australis, which I know is fairly common in England. The Nikau Palm also grows in the Makuri. It is very handsome when the leaves are not too much exposed to the wind, and grows about 20 feet high, with a plain, rather hairy trunk. Then come bunches of flower or berries yellowish in colour, and then the huge leaves, each about 6 feet long, very stiff and hardly spreading. On almost every tree trunk of the Bush, either alive or dead, grows the Astelia; it has short, thick leaves, and flowers starting from a creamy spathe that hangs down. They are pale yellow and almost the shape and size of the Bottle-brush. If any of the readers of THE GARDEN would care for the seeds of Cordyline Banksii (white) or Libertia ixioides, I would be glad to send some, as those on my own bushes are ripening, and if possible I want to get the seeds of the pink, but I cannot offer those until I get them.—(Mrs.) MARY POULTON, *Moera, Shirley, Christchurch, New Zealand.*

THE PLAGUE OF "CABBAGE WHITES."

I OBSERVE a letter in the issue of July 28 in which a schoolgirl wishes to do some useful war work. May I be pardoned for making the suggestion that she and as many dear little girls as she can obtain pursue the exciting occupation of catching the pesky "Cabbage White"? If we could by some means or other ensure that for the next eight weeks (the average school holiday) every schoolboy or schoolgirl would endeavour to catch as many of these butterflies as possible each day (and they are extremely easy to catch), the present plague might be reduced, and if we had no benefit from such an action this season, the result would be seen during 1918. I am assuming that every gardener is stricken in a like manner to myself. I have them coming into my garden in battalions. They settle for a moment on a Cabbage, depress their egg-laying portion of their anatomy, and deposit an egg, or more often eggs, and pass on to the next. Nothing is sacred this year. I have them on my Brassicas, Leeks, Parsnips, Potatoes, Turnips and Beans. They seem particularly fond of a long row of Turnips which are only just through the ground and have barely made their seed-leaf. That they are not merely disporting themselves upon these vegetables I know from an examination of these plants, all of which have eggs upon them. I have never before known them to lay their eggs upon anything other than the Brassicas, but this year they are upon everything. They have become so bad in my garden this season that I have sprayed all the "greens" with lead arsenate, although I find that it is very difficult to make it adhere to the leaves; it all runs off. However, by mixing with soft soap I have got sufficient to give the caterpillars a hot time as soon as they commence to feed. I think it is time that some institution offered so much per thousand butterflies, and the same for the caterpillars. [This is being done in a few places.—ED.] The eggs will be found at the back of the leaves in most cases.—CLARENCE PONTING.

CORDYLINE AUSTRALIS AT RAMSEY, ISLE OF MAN.

I HOPE the views of the above may be of interest to many of the numerous readers of THE GARDEN. I was rather astonished when first I came to the Island, eleven years ago, to find this plant growing and doing remarkably well without any protection. But it also flowers most abundantly and ripens seed perfectly all over the Island. This park is close to the seashore, and the trees are exposed to all the north and east winds, which amount to gales during autumn and winter. They have no protection whatever, although last winter was exceptionally severe; in fact, the worst experienced since 1895. They have been in bloom for the last few weeks, and the atmosphere has been heavily charged with their Lily-like fragrance. I raise them very easily from seed in a frame. I have over 1,200 plants raised last year and wintered outside in an open border. If any of the readers of THE GARDEN would like a little of the seed, I will gladly send them some on writing to me.—J. MILBURN, *Mooragh Park, Ramsey, Isle of Man.*

CORDYLINE AUSTRALIS IN THE ISLE OF MAN.

PAUL'S SCARLET THORN.

THE reference to Paul's Scarlet Thorn prompts me to ask whether the pink-tinted, wild single form of Thorn is common? I cannot remember ever seeing it before, but here some trees opened blush and deepened, while many that opened white turned pink before finishing. I have seen a good many "May" trees in my time, but not until this season anything like coloured forms growing wild. I might add that an enormous crop of berries has set this season.—T. A. W.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

FURTHER NOTES ON CROPPING

Globe Beet.—A sowing of Globe Beet should be made during the early part of August on good forward soils. It grows fast and will be ready for use before the bad weather arrives. A good plan is to grow the Globe for summer and autumn use, and the long variety for storing. Sutton's Globe is one of the best for autumn. Beet likes a nice rich, deep, well-tilled soil. Be sure to sow the seeds *thinly*. The plants will need to be about 3 inches apart, so a seed or two may be dropped in drills at this distance in the rows. A sowing of Globe Beet may also be made in a cold frame during the first half of August, and, if protected, a supply will be secured after the winter has set in.

Winter Spinach.—A good sowing of Winter Spinach may now be made. Winter varieties are possessed of prickly seeds and include Long-standing Winter, Common Prickly and Prickly Flanders. Sowings for succession are made up till September. Crops that are growing must be kept well hoed and free from weeds, so as to conserve moisture during hot, dry weather. Soakings with water or liquid manure may be necessary, or mulchings. The culture of Spinach is very simple, and details need not be gone into here. The vegetable may be regarded as a catch crop, though by no means an unimportant one. Seeds possess good powers of germination, therefore it is needless to put in seed to waste. The rows are made not less than 1 foot apart, and the plants thinned in the rows to the same distance. Plants of the late sowings will need to be protected if frost sets in during autumn; also indiscriminate picking must be guarded against, otherwise the crop will be ruined. A crop of Turnip-rooted Radish may be taken by sowing seed between the rows of Spinach, if the latter does not happen to be sown between rows of another crop. When sowing Spinach in dry weather, the drills should be got out 2½ inches deep and soaked with water. Seed is sown immediately the drills have become drained of the soaking. The soil should be fine, and it is not a bad plan to firm it a little within a few days after sowing.

Lettuces.—A good variety of Lettuce which, if sown now at one operation, will provide a

supply right into the winter, is Daniels' Continuity. We have depended upon this variety for quite a number of years and without fail. Other good varieties for autumn work are Ideal, Nonsuch, Hardy White, Covent Garden White and Brown, and Hardy Green Hammersmith.

Red Cabbage.—One sowing of Red Cabbage should be made in August, and if thought desirable a second sowing early in September. Such sowings will provide useful plants for next year's crop. These Cabbages do best on a firm soil that is not too rich.

Green Onions.—White Lisbons, or Silver Skins, are grown largely for supplying green Onions in the spring, and it is now time to be making the first sowing. Rich, well-drained, friable soil is necessary, and the seed will need to be sown rather more thickly than for a crop to produce bulbs. The rows are made 9 inches to 12 inches apart. When preparing the site it is advisable to add some soot or lime to the soil. In hoeing between the rows after the crop has come up, great care must be taken not to disturb the seedlings.

Carrots.—The subject of growing Carrots in the autumn was dealt with on page 283 of THE GARDEN, issue July 21. L. M. MARSHALL.

Intensive Cultivation of Vegetable Marrows

BY EDWIN BECKETT, V.M.H.

I HAVE for many years advocated the system of cultivating these under glass, as I am convinced that when properly managed few crops give better returns with so little trouble. The past and present seasons have especially borne out my views on this matter. We devoted a rather large three-quarter-span house to them. Seeds were sown in the middle of February and nursed along in a warm house. The seedlings were finally placed in the largest pots obtainable, the pots being about three-parts full of a compost consisting of two parts fibrous loam, one part decayed horse-manure and one part leaf-soil, adding sufficient coarse road grit to keep the soil porous, the pots being thoroughly drained.

We commenced to cut nice clean fruits from these about the middle of April, and they continued to bear freely until the middle of June. A good rich top-dressing was afforded them when in full bearing. Very little fire-heat was employed, as too high a temperature is fatal to their success.

The varieties we grew for this purpose were Moore's Cream, The Sutton, Table Dainty, Perfection, Pen-y-byd and Rotherside Orange, the latter a new variety of much promise. The plants were kept well supplied with manure water, and the foliage thoroughly syringed twice daily during fine weather. The house is now fully occupied by Tomatoes ripening. We also planted the same varieties, with the addition of Improved Custard, the first week in March in portable frames on mild hot-beds, the plants commencing to bear freely by the middle of May. The first week in June the lights and frames were entirely removed, and, the weather being favourable, very heavy crops of fruit have been, and are still being, cut. This is a method which should certainly be more extensively carried out, as it is obvious that when properly managed such plants will be in full bearing when the large majority of cultivators are putting out their plants, and by keeping them well supplied with water and plenty of stimulants these will continue to bear splendid crops as long as the weather remains favourable. Here let me say a word in favour of Mr. H. Chapman's new variety Rotherside Orange. He kindly sent me a few seeds to try. It is quite distinct from anything I am acquainted with, and is apparently a cross between Pen-y-byd and the Custard. It is practically round in shape, by far the most prolific variety I know, and, above all, quite the best flavoured Vegetable Marrow I have yet met with, while the stock seems to be thoroughly fixed.

INTENSIVE CULTIVATION OF THE VEGETABLE MARROW ROTHERSIDE ORANGE AT ALDENHAM.

Endive as an Autumn Salad

ENDIVE is a salad that is not widely known among amateur gardeners, but very useful for supplying bleached heads in autumn after the summer Lettuces have gone. Seed is sown in a cool position in June to produce a crop out of doors. Plants should not be encouraged to make too rapid growth. The Endive plant is rather tender, and has a spreading habit of growth. For this reason seed should be sown thinly, and plants, when set out, placed at a good distance apart. Plants cannot regain strength lost through overcrowding. A well-cultivated, moderately manured plot should be selected for the permanent bed, and the soil watered before planting out. Use a fork for lifting, and never pull the plants to injure the roots. A firm bed is necessary, but hard, lumpy soil should be avoided, unless it can be brought into proper condition by cultivation. It is not a bad plan to set the plants on ridges where the soil is heavy or inclined to be damp. In wet weather the soil should be scraped away from the surface under the lower leaves, taking care not to injure those leaves. The plants will often decay on reaching the blanching stage if the soil is retentive. When large enough the hearts are blanched by tying the leaves together as for Lettuce, or by covering the plant with an inverted flower-pot. When plants are needed for forcing, the seed is sown thinly in the outside garden in August and September, the plants being removed to frames before the arrival of bad weather. When blanching in cool frames, do not place the plants too closely together, a mistake that is so often made and which results in the decay of the plants. Endive is very subject to damping off. The frame used for growing the plants in autumn and winter need not be heated, but protection against the effects of the weather must be afforded during frost by covering the frames with mats or straw, otherwise plenty of air should be admitted. Blanching plants in frames takes place when growth is fairly well advanced, in the same way as for outdoor plants.

Droitwich. M.

Tripoli Onions

THIS most important crop should not be overlooked by anyone who may have a garden, be it ever so small. In fact, it would be most difficult to maintain a regular supply of Onions throughout the year without the Tripolis, and it is needless to remark how very useful they are, when the spring-sown Onions are past, in every household. The ground selected should

in good heart, deeply worked, with ample thoroughly decayed manure well mixed in with the soil; of course, more or less, according to the nature of the ground. Among the best varieties and those most generally grown are Giant Rocca, Giant Lemon Rocca, Red Italian and White Italian. There are others strongly recommended, but for ordinary purposes any of the above will suffice. Let the soil be made moderately firm, draw out the drills 2 inches deep, and allow 9 inches to 12 inches from row to row. Sow the seed moderately thickly in case it be old and inferior, and also for the purpose of drawing the plants in spring, both for use and transplanting. I usually make two sowings on two different sites—one fully in the open and another on a snug border. Of the latter, frequently the plants have proved exceptionally useful for drawing young and also for supplying nice usable bulbs early. Allotment holders should not overlook this crop, as a few pennyworths of seed will produce a splendid crop of Onions.

Wrotham Park, Barnet. H. MARKHAM.

Catch Cropping the Sides of the Celery Trench

BY CLARENCE PONTING.

THE photograph on page 279, issue July 21, of a gardener planting Lettuce as a catch crop on the Celery trench sides is a most interesting one, very nicely taken, and illustrates the method very clearly. But why does every writer on this subject give us only two alternatives as catch crops for this purpose? The two good old infallibles are French Beans and Lettuces. Some even go so far as to recommend Radishes; but I draw the line at the latter for this purpose—I decline to be a rabbit. It is bad enough to have to get through the crops of Lettuces which one can raise on the sides of a moderate row of Celery, and which all turn in at once as the result of being all planted out at the same time. But no; I really could not commence on those Radishes, even in war-time.

We are slaves to the conventional, are we not? All writers glory in the educating of the tyro in Celery planting, and tell him to take out trenches which will enable the gardener to go out to the Front without further delay. In fact, there is too much luxury about those Celery trenches. That fat layer of manure, a foot thick at least, is enough to frighten any novice out of his wits. His contention that he can buy good sticks of Celery at 2d. each, whereas the manure would run to 5s. at least, holds good, and he groweth it not.

The method which I always follow is to do away with those two mounds of earth that are placed on the sides for earthing-up purposes, and which cannot be very well utilised for any crops other than French Beans or Lettuces, and plant it on the flat. This does not mean that I do not trouble to prepare a trench. Such easy-going gardening will never produce those 2-feet to 3-feet sticks which are the pride of the gardener's eye. No; I take out my trench, throwing up the soil at the sides in the orthodox manner, and fill in the bottom with a foot of decayed grass mowings, Pea and Potato haulms—[It is better to burn Potato haulms.—ED.]—and the refuse of the garden, which are placed in a heap for this purpose the previous summer. This is dug into the subsoil, the earth is returned to the trench, and the whole raked level. On this the Celery plants are placed early in May, having been raised in a cold frame from seed (no expensive heated greenhouse needed). A foot of space is allowed on each side of the row, which in my case is always a double one, in order to economise space. Then rows of Peas are planted also on trenches of the same manure. These, being first and second early varieties, come off well before the Celery is in need of earthing-up. At the foot of the Pea sticks—almost touching, in fact—are sown (not planted, as they do not "bolt" like the planted ones) the inevitable Lettuces. Close to the Celery itself is sown the Radish seed. These two crops produce such an abundance that it is necessary to give away the surplus, owing to them all turning in at once, as before mentioned. The Celery is dusted with lime, which serves the double purpose of warding off the Celery fly, and the surplus, which falls on the Radish seedlings, keeps away the Turnip flea-beetle. The Radishes are off before they interfere with the flat hoeing at the sides of the Celery, while the Lettuces are cropped at about the same time as the Peas are ready.

CELERY PLANTED ON THE LEVEL AND INTERCROPPED WITH PEAS, LETTUCES, ETC.

These two crops being removed, the soil which is then vacant is used to blanch the Celery. As this does not take place until September and the Peas and Lettuces are off before the beginning of August, the soil can be dug over and made in that fine condition which is necessary to blanch Celery as it should be done.

My Celery, grown on this system, is beyond reproach; I am not modest, I admit. The sides of what would in the ordinary case be mounds of soil are utilised for a more useful crop than either Lettuces or Beans, and the following spring that piece of ground is in excellent condition for a bed of Carrots, as the three trenches when dug over are of just the right size for such a crop.

In the accompanying illustration, which shows the system fairly well, the Celery is about half grown, and is now (July 21) 18 inches high and growing well. As there are two paths down the sides of the Celery, stimulants can be easily given, whereas with the mounds of soil this is anything but an easy thing to do. At the end of each path is one Tomato plant. No waste space this year!

Some Good Gooseberries

GOOSEBERRY time, to anyone who is critically appreciative of this excellent and wholesome fruit, is by no means the least important in the small-fruit season. I have a few short rows of them with posts and wires, so that they can be pruned and trained espalier fashion, a great convenience in the way of saving hands and wrists from overmuch scratching. After testing a number of sorts I am quite content to keep to very few. For a red kind one cannot wish for anything better than Red Champagne; for green, Langley Green and Langley Gage are both superb fruits for quality. None of these is of large size—only medium. It is good to go from red to green and then back to red; from the sharper Champagne to the blander but highly flavoured Langleys, and then to return to the red. In addition there are two bushes of Warrington, a fine late red, and two of Early Sulphur, for, though this is not of much account for flavour, it gives one Gooseberries a good fortnight before the others. Besides these, which are in my special Gooseberry patch, there is in the kitchen garden a row of Ironmonger, the small, rough red kind so good for jam, and some bushes of Whinham's Industry, an early kind for picking green. But we also pick quite small for pies all the lower fruits of the dessert kinds, as they are the ones that would get splashed with sandy particles in heavy rain. G. J.

Dianthus Napoleon III.—This is quite one of the best of the hybrid Mule Pinks in colour, constitution and habit. The double, well-formed, rich crimson scarlet flowers are produced from July to autumn with extraordinary freedom. They are, moreover, held erect on stiff stems 8 inches to 15 inches high, thus exempting the plant from that reputation for floppiness too common in some of its kin. Few border and rock garden plants have withstood the fierce sun and rapid evaporation which we have had for the past three weeks—and that in an exceedingly porous, shaly soil—better than this one. This Dianthus is easily propagated from cuttings any time during summer.—A. T. J.

DAFFODIL NOTES

By the Rev. Joseph Jacob.

ALTHOUGH WE MAY HAVE ANOTHER SHOWLESS DAFFODIL SEASON NEXT SPRING, IT IS HOPED THAT READERS WILL MAKE AN EFFORT TO KEEP THEIR COLLECTIONS TOGETHER.

Showless Seasons.—As far as my information goes we who live in Great Britain and Ireland are in for a second showless season in 1918. I am very glad. It is wholly right that no one should spend their time on "showing." Everyone worth a halfpenny has much more important work to do. The most that show people and seedling raisers will wish to do is to keep their collections together, possibly picking up an odd bargain or two with the idea of helping the badly hit dealers in new and expensive Daffodils. I am wondering what "show" conditions will be like after the war, when peaceful days come round again. I expect a great seedling era will then set in. The normal raiser looks forward to the time when his home-made collection will dehisce. There are many new "dark horses" busy preparing for that exciting day. The young man from Waterford whose jolly Cassandra seedling is illustrated below is one of the keenest and one who has high ideals of what a flower should be—a Cæsar's wife at least! When all these, along with the "old stagers" show their wares, there will be such displays of novelties that all previous records will be passed. If I am right, all Daffodil societies must provide for their next show more seedling classes than ever. Just at present my head is full of local words and sayings, or, to put it more truthfully, seeing it is really anything but overflowing, I have recently purchased a book of Cheshire proverbs brought together and annotated by Dr. J. C. Bridge, the organist of Chester Cathedral. An old lady told me one the other day which is not in his collection, but which I must send him and which I now repeat for future schedule-makers to think over, remembering that *tempora mutantur*: "Those who have made a start with the brandy bottle won't go back to the buttermilk ladle."

A CASSANDRA SEEDLING RAISED BY MR. LIONEL RICHARDSON OF WATERFORD—A COMING MAN.

Straws from New Zealand.—"The Macs"—that is, Mr. and Mrs. John Maclean of Oamaru—are great Daffodil people. They do the thing thoroughly and leave no stone unturned to ensure success at shows. They have sent me a little "snap," unfortunately not suitable for reproduction, which depicts a fairly large space covered in with scrim, top and sides. I have never seen anything on the same scale here at home, and (wind permitting) it strikes me as as great an advance over our usual petty coverings as a tall wire cage is over close-fitting nets on Strawberries and Currants. Straw No. 2: Certain New Zealand papers, dated March 2, 8 and 9, give accounts of the last autumn shows. Mr. Robert Gibson was able on three occasions at least to astonish the natives with Daffodil blooms. He had Ivory King, The Earl, Brilliancy, Golden Chief, Ozan and Incognita. I was able to do the same sort of thing at the Holland House Show in 1915, when I had a trumpet in my buttonhole on the first and an incomparabilis on the second day. To the uninitiated it looks uncanny, but it only means that they are recent importations taking an early peep at their new home. Straw No. 3: A picture of Sybil Forster, grown by Mr. Trevena of Dunedin, shows how well Daffodils can be grown in the Southern Island. It seems even more refined than we get it here.

Harness the Daffodil.—My friend Mr. E. H. Wood of Ludlow was not going to disappoint his flowers last spring. Birmingham was off. So what did he do but have a show "on his own" at the local town hall on May 10 for the local Red Cross Society and Queen Mary's Needlework Guild. He staged 150 varieties. War tea was provided at sixpence a head; bedding plants and Tomatoes were for sale. He was able to hand over to the above vitally important objects no less than £20. Kind readers with Daffodil collections, you might like to do likewise. Your plants will like doing their "bit," and they will feel an inch taller when they next bloom.

Selections for Pots.—There is no red cup in the ordinary run of varieties that can compare with Blackwell for flowering in pots in early February. If this meets the eye of any of our market forcers, it would be of great interest if they would tell us if they have tried it and how it behaved. I fancy the blooms would pack and carry very well. Of Poets there are no end. I am inclined to think Homer, Ben Jonson and Virgil are as good and as reliable as any. Seagull almost always develops a coloured edge to its cup when slowly brought on. In this state it is striking and effective. Triandrus calathinus makes quite uncommon and exceedingly beautiful 5-inch potfuls. With six or seven bulbs in each the effect is good. The cultural requirements are as follow: Plenty of crocks; light, porous, good soil; cold frame treatment; stand each pot in a saucer and water by filling it (the saucer) from time to time, or place the pots on a damp bottom; seed is easily obtained, so everyone should sow a little yearly to keep up a succession of young, healthy bulbs that will give a good account of themselves when they flower. Ruby is one of the modern varieties that is almost certain to have a great future—eelworm and such like "annoyances," as the old garden bookmen expressed it, permitting. I have never grown it in pots, but as the minister said to the rich Scotsman who, when he was very ill, had asked if he thought a donation to any charity would have any effect upon St. Peter, "It's an experiment well worth trying."

SYBIL FORSTER.

A magnificent White Trumpet raised by Mr. J. Mallender of Scrooby, and grown by Mr. Trevena of Dunedin, New Zealand.

Notes from a County Down Garden

Regarding the note "An Old Bourbon Rose," this Rose, Souvenir de la Malmaison, was greatly admired and grown very successfully by the late Mr. Alfred M. Munster of this neighbourhood. We have it here very strong and healthy, but it does not seem to open its buds satisfactorily. The soil, of course, is rather light and dry for exhibition Roses, but the Penzance Briars do extremely well, and Rosa polyantha grandiflora over a tool-house has thousands of flowers at present. I had the pleasure of seeing some of Mr. Hugh Dickson's Roses in massed beds of 300 or 400 plants of one name and colour, and noted the following as superb instances of great beauty and brilliance: Gorgeous, Red Letter Day, Mrs. Theodore Roosevelt and Irish Elegance. This grand weather has no doubt given the Rose its chance of repaying the gardener for his past attention, and as a flower no other can well enter into competition. Of course, every plant has its place in the garden's calendar and every plant has its quota of beauty; this applies specially to the gems of the rock garden. But there are few more beautiful sights in horticulture than a mass of Delphiniums in full shimmering bloom as at present.

Holywood, County Down. Walter Smyth.

IRIS ROSENBACHIANA

TO old readers of THE GARDEN this delightful, gaily painted Iris is no novelty, for there is a charming coloured plate of it in Vol. XXXIII. for the year 1888. I am spending a week's holiday in my new garden, but when all out-of-door work is stopped by the weather, as it is on this eighteenth day of July (Samuel Taylor Coleridge must have composed his "Ode to the Rain" on such a day as this !), it is pleasant and profitable employment to turn to these old volumes of THE GARDEN, which contain such a storehouse of information in addition to the numbers of superb reproductions of Mr. Moon's lovely and truthful flower-paintings, and read about one's favourite plants or hunt up those that have passed long since into the limbo.

It is curious that a plant of the easiest culture—on my light, warm soil it grows as readily as Iris reticulata, and does not require frequent lifting—should be rather scarce and expensive after being in cultivation for at least thirty years. It was discovered about 1885 by Albert von Regel on the mountains of East Bokhara, Turkestan, at an elevation of 6,000 feet to 9,000 feet, and proved quite hardy in the Botanic Garden, Petrograd (I had almost written St. Petersburg), as it has with me in the past severe winter.

It is exceedingly variable in colour, and in its wild state, we are told, two varieties are found growing together, the flowers of one form being blue, those of the other being a fine violet. It grows easily from seed, and seedlings also vary much in colour, being variegated in purple, yellow and white. Sir Michael Foster (see "Bulbous Irises") describes a rare form as nearly pure yellow with a few purple or violet markings; another form which I have never seen is pure white, except for a large patch of deep violet on the blade of the fall and some few veins.

A bed of these Irises with their endless combinations of blue, purple, red, yellow and white would be gorgeous in the extreme, especially if carpeted with a low-growing Thyme or similar rock plant to prevent the flowers from being splashed.

At the time of flowering the three to five leaves are short, but develop quickly after the flowers are past, and are finally 6 inches to 8 inches long by 2 inches in breadth and lanceolate in shape. For such a large flower the bulbs seem small; they are ovoid in shape, three-quarters of an inch to an inch in diameter, with thick root fibres and brown tunics, never reticulated as in the Netted Iris (Iris reticulata).

In 1916 this Iris was fully out in my garden on April 10, but this year it was not in flower until well into May. The flowers are 4 inches or more across on long tubes, the falls oval, almost strap-shaped, and the standards are an inch long. It belongs to the third section of the Juno Irises, known as Stemless Junos, all the members of which, with perhaps two exceptions, have their leaves absent or very short at flowering-time in spring. The beautiful but miffy Iris Danfordiæ belongs to this same section, but I have quite failed to grow this species successfully.

All bulbous Irises should be divided (when necessary) as soon as they go to rest, as, if left until root growth has recommenced, much damage may be done to them. The Juno Irises have thick and fleshy roots, and these must be preserved and disturbed as little as possible. I can and do honestly recommend Iris Rosenbachiana to anyone who, like myself, finds Irises reticulata and bucharica easy to manage. It should be obtained and planted at once, and those readers who "do it now" will be able, when it makes its appearance next spring, to speak of its beauty in the words of Sir T. N. Talfourd:

"We were charm'd,
Not awe-struck; for the beautiful was there
Triumphant."

Kidderminster. ARTHUR R. GOODWIN.

THE STEMLESS JUNO IRIS ROSENBACHIANA.

FLOWER GARDEN NOTES

BY MRS. C. W. EARLE.

I RECEIVED a letter the other day from a stretcher-bearer in Persia. It is so interesting to find that wherever English soldiers go, gardens of sorts spring up, and if they can find nothing else they make ornaments of stones. This is an extract from the stretcher-bearer's letter:

"I am still in the corner of Persia doing duty at this camp. Twice or thrice weekly we get the cowboys in from the base hospitals, and the men have from two to three weeks' convalescence before going back to the firing line. We have a hospital section for treating relapses and cases that develop here. This is a very splendidly run camp. We have a field bakery here, which has the reputation of making the best bread in the country. It is run by Indians, but Persian coolies do the kneading, and very good the bread is. The job. Local cattle are slaughtered here, but they are poor specimens of cattle. Just lately we have been getting frozen meat from the Argentine, and very excellent it is. Here there are hundreds of acres of land up the line under cultivation for growing fresh vegetables for the troops, and it is proving a very successful experiment. Our garden here does well, and the brilliancy of the flowers is wonderful. Hollyhocks, sown seven months ago, are a mass of bloom and 5 feet or 6 feet in height; double and single Pinks, Zinnias, Gladioli and Mignonette are all doing splendidly, grown from Sutton's seeds, got from their depôt in India. Watering is the great thing, the water being poured into channels round the beds; if sprayed directly on to the beds the ground hardens too much and things do not do well. The fall of Baghdad and the subsequent advance have done wonders to raise our prestige, which was rather low, and, of course, secures our hold on the petroleum fields, which is the great thing. We are all hoping for a speedy end of it all, although I expect a good many will take the offers that are going around for jobs in this country after the war; but such a climate as this wants a lot of inducement to stop in it."

I have known the writer of this nice letter many years. He was not a gardener, but lived where he was surrounded by good gardens and knew what good gardening meant; he was always fond of flowers and knew how to arrange them in water.

In my last article on the fruit and vegetable pergola I forgot to name one of the best for spring bloom and autumn beauty—the Siberian Crab or Cherry Apple. It grows most successfully here as a standard; it has small fruits and long stems like a Cherry, scarlet or golden yellow, and it makes excellent jelly. Some people like the yellow-fruited variety; it is similar to the ordinary one, only pale yellow, which to my mind suggests its not looking ripe. Another small, richly tinted Crab called John Downie is well worthy of a place.

I have lately had three or four fine blooms from the Night-flowering Cereus, C. grandiflorus. It was severely hit by cold last winter. It is the species illustrated in Thornton's beautiful and unique book published in 1799. This book is now rare, as it has been so cut up to sell the pictures separately to frame or insert in wood panels. Thornton says its native country is Jamaica, but I believe it grows in forests in South America as well. How wonderful it must have seemed when first seen growing and climbing up the trees in some dark forest! Even in England when well grown by a careful gardener in a well-regulated and not over-heated stove an old plant will bear thirty to forty blooms in the summer, but whether cut off the plant about eight o'clock or left to flower on the plant, in the morning nothing is left but soft, sad, little brown corpses.

So much beauty for a few hours through the night in a dark tropical forest is one of Nature's greatest marvels. In the first volume of the *Cactus Journal* there is an illustration of a plant called "the Serpentine Cactus," which is growing and flowering in a small pot. One summer my plant had eighteen blooms, but it has not done well since the war.

THE MAKING OF POT-POURRI

By GERTRUDE JEKYLL.

THERE ARE TWO WAYS OF MAKING POT-POURRI, NAMELY, BY THE DRY PROCESS AND BY THE MOIST. THE DRY WAY IS THE EASIEST AND QUICKEST, BUT THE PRODUCT OF THE MOIST METHOD IS SO MUCH SWEETER AND MORE LASTING THAT IT IS HERE DESCRIBED IN DETAIL.

THE chief ingredient in making pot-pourri is half-dried Rose petals, and, roughly speaking, this should constitute a proportion by bulk of something like four-fifths of the whole. Then if the remaining fifth is still further subdivided, it may be of two-thirds Sweet Geranium and the remainder Bay leaves and Lavender. These proportions are given as a kind of type, but they need not be constant, for in some years it may be convenient to use less of Rose and more of Sweet Geranium, and it will make good pot-pourri. We make it every other year, enough to fill a big tub that holds nearly 2cwt. It is not made every year because the preparation takes a good deal of time and trouble, and the quantity suffices for the usual two years' distribution; moreover, it is better the second year than the first, as it ripens slowly to a more complete maturity.

The Roses are picked when open at their widest; they must be quite dry and must not have been rained on since they were in bud. They are best collected on a sunny day any time between twelve and three.

PICKING OFF THE ROSE PETALS.

If they are picked at all damp they will not dry properly, but will go mouldy, and the batch will only have to be thrown away. We pick about two bushels at a time, and they are at once taken to a big, airy room, a temporarily disused studio, where a large cloth, a dust sheet or a bale wrapper, is laid out on the brick floor; on this the petals are picked off and separated. If this cannot be done at once the Roses must not be left in the basket or even be laid to wait in heaps, or they would soon heat and spoil; they must be laid out, not more than two or three Roses thick, on the wrapper. There are three old oak tables in the studio, 8 feet or 9 feet long, and the Rose leaves are laid out on cloths on these. If the following day is fine and sunny they are taken out and laid on their wrappers in the sun on the little paved court just outside; but if rain comes on or even threatens we rush to the rescue and bring them indoors and put them again on the tables. If they have been in the sun the second day they may be ready to go into the preparation jars on the afternoon of the third day, but the time they take to dry to the proper state is better understood by the barometer than by the Rose grower, who has to learn it by experience; but the petals have to shrivel to about half their bulk and be not dry, but tough and leathery. Meanwhile, a store of salt mixture is held in readiness; it is half bay salt and half common salt. The bay salt is sold in lumps; it has to be roughly pounded so that the greater part is broken up small, leaving a certain proportion in knobs about the size of Marrowfat Peas.

The preparation jars I had made on purpose at Doulton's Lambeth Potteries; they are of strong buff stoneware with covers of the same, of plain cylindrical shape; they stand 22 inches high and have an inside diameter of 9 inches. Each has a loosely fitting disc of lead, weighing 14lb., with a flattish handle. Three moderate or two large handfuls of Rose petals are thrown in and are rammed down with a wooden rammer made of the upper part of an old spade-handle let into a rounded wooden block; then an easy handful of the salt mixture is sprinkled over the layer, another three handfuls are thrown in, and so on as long as that batch of Rose leaves lasts; the heavy leaden disc is then lowered in to keep the mass tightly pressed down. The Sweet Geranium leaves are treated in the same way, but in the case of the most commonly grown kinds, namely, radula and radula major, each leaf is first torn up into three or four pieces. Sweet Verbena is very desirable, but unless the quantity of pot-pourri made is small there is not usually enough to make a material addition to the bulk. It need not be dried, but can be put into the jars and salted at once. The young Bay leaves of the year are not hard and mature till quite the end of July, and are still better in August. Lavender is ready in the last days of July or the first week of August; it should be gathered while the upper part of the spike is still in bud. Lavender and Bay leaves are both of a dry nature and go straight into the salting jars without any preliminary drying. The Sweet Geranium is not gathered till well on in September, or according to the season, the object being to enjoy it in the open for as long as possible and to cut it just before the plants would naturally be destroyed by frost. A very precious ingredient, the earliest prepared in the year, is Orange peel stuck with Cloves. In March, when Seville Oranges are to be had, the peel is taken off in halves and cut into strips the up and down way of the Orange, so that they are about half an inch wide in the middle, and they are stuck all over with Cloves. This is put into a jar with salt by itself and only pressed down by hand, as it is too tender to bear being rammed.

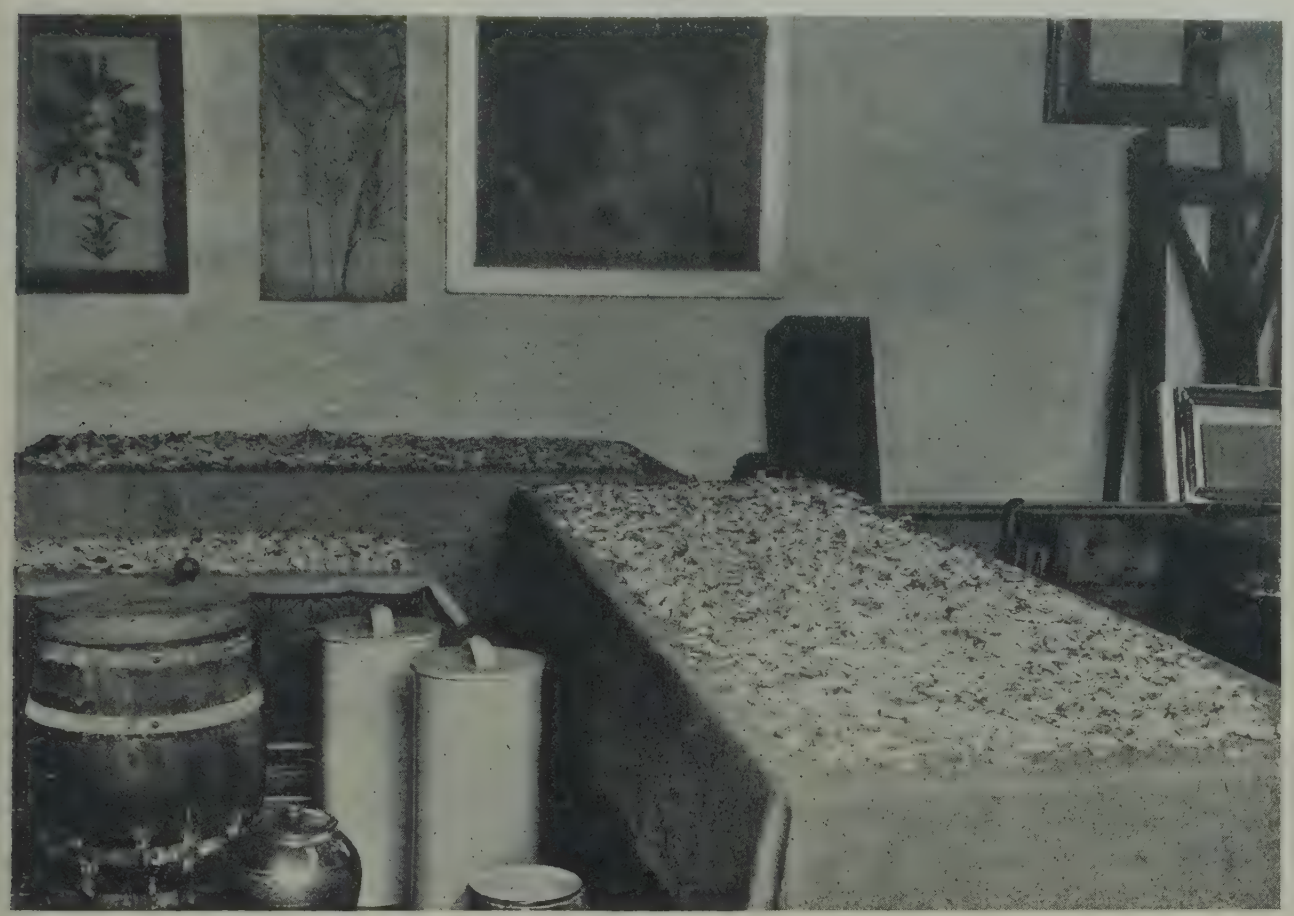
THE RAMMER.

Thus the collecting and preparation of the pot-pourri material begins in March and runs through the summer and early autumn, so that the time of the final mixing does not arrive till October, when the seasoning of spices and other sweet things should be prepared. The tub has a capacity of from 16 gallons to 18 gallons, and the weight of pot-pourri made is somewhere near 224lb. For the seasoning of this I use the following ground spices, gums, &c.: Five large packets of Atkinson's Violet Powder—this is better than using the alternative of plain Orris-root—1lb. Cloves, 1lb. Allspice, 1lb. mixed spice, ½lb. Mace, lb. gum benzoin, 1lb. gum storax. This is all mixed together and put in a pail. There is, besides, 1lb. whole Cloves and 1lb. whole Mace. From these weights the amounts wanted for smaller quantities can be computed.

October having come and all the materials being ready, we proceed to the mixing. In the case of the rather large quantity made, it is done on a well-swept place of the brick floor of the studio. The Rose leaves in the jars are now so tightly compacted that they have to be loosened by stabbing with an iron weeding fork; they come up in close, thick flakes that have to be broken up by the hand, and are then thrown upon the floor. It is best for three or four persons to work together, one of them having the pail of spice mixture, so that as the heap on the floor rises, the various ingredients are already more or less mixed. When the jars are empty and the spices exhausted, the

whole is turned over backwards and forwards on the floor with a shovel, and if it appears to be a little too dry, a slight sprinkling of water is given with a fine-rosed can. Of this new mixture none is used till the following March or April, and it is all the better if it remains for nearly a year in the tub untouched.

I have collected and studied a number of old recipes for pot-pourri, but find in many of them either some want of definite instruction or some obvious inaccuracy; but it has not been difficult to gather from them what is essentially useful, and so, with the added experience of many years, to establish a more or less regular course of operation.



DRYING THE ROSE PETALS INDOORS.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—Early and second-early varieties are quite satisfactory in their cropping qualities. In the main, not much fault can be found with the manner in which they cook. The well-known sorts are maintaining their reputation. As they are lifted, the seed size should be carefully selected, rejecting any misshapen tubers and giving preference to those about 2oz. in weight. Lay them in the sun for a few days to thoroughly dry and solidify their skins, after which they should be stored in an airy shed. It does not matter whether they become green or not; this is not imperative to their keeping qualities.

Runner Beans are growing and fruiting irregularly. Where well managed as to soil cultivation, the seed, sown early and not too thickly, the plants are fruiting freely. On the other hand, bad cultivation is bringing its own reward in shy setting and a loss of plants. Keep the roots well supplied with water, and the surface between or alongside the rows mulched with strawy manure.

Brussels Sprouts.—The early raised plants are nearly a yard high, and where exposed to wind require some support to keep them erect; a stout stake with a single tie will do this. A final hoeing between the rows will destroy all summer weeds and still further aid growth. These early plants cannot grow too much at this time of the year. More sprouts are obtained from plants 4 feet high than from those half that height. Many amateurs, until they realise the mistake, are only sowing the seed when they should be putting out the plants; thus a full crop cannot be obtained.

Cabbage.—Although it is customary to sow seed in beds, it is a good plan to sow in drills a foot apart, especially if a large number of plants are required. In rows the plants can be kept free from weeds and the soil stirred between. This, with more light and air, causes the plants to grow more sturdily than when they are huddled together in beds. Water the drills before sowing the seed in order to hasten germination, and cover the surface of the drills with short grass to ward off attacks of Turnip fly. The choice of varieties is much a matter of locality and individual preference. Be that as it may, I would advise all not to omit Harbinger, which is probably the most useful variety in existence. Ellam's and April are other desirable sorts.

Peas.—Late-sown rows are growing away sturdily, the recent bright sun having just suited them. Keep the roots well supplied with moisture, and broadly mulch on each side of the row with littery manure to conserve the moisture in the soil.

Cauliflowers are especially a success this season. Any late plants can be assisted by giving copious supplies of liquid manure, a sprinkling of sulphate of ammonia about the roots, or a heavier dressing of soot. Go over the plants each morning, cracking the leaves over the forming heads to preserve their colour.

Plants Under Glass.

Cinerarias.—Shift the plants into larger pots as required until they are in the flowering size—8 inches. Stand them on a bed of ashes in a cold frame with a northern aspect, so as to save the trouble of shading from bright sun. Water carefully and syringe them overhead after a hot day, leaving the lights off to induce a robust growth.

Primulas, double and single, should have an open site in a frame with a southern aspect, applying a little shade during the hottest part of the day. Allow ample room between the plants, and keep them close to the glass to avoid the growth becoming weak. Pots 6 inches in diameter are an ample size in which to flower the plants. A compost of loam, three parts, with leaf-mould and peat in equal quantities and a dash of sharp sand, will suffice.

The Hardy Fruit Garden.

Apples and Pears.—Heavily laden trees, trained in any form, should be finally summer pruned, the surplus fruits removed, the roots well supplied with liquid manure or some artificial fertiliser, well watered in, and the surface finally mulched to assist the swelling of the fruits.

The Flower Garden.

Rambler Roses.—Directly the flowering is past, cut away all shoots that produced flowers this season where there are ample stout sucker-like growths to take their place; otherwise spur the old flowering growths in to admit air and light to those left to provide the next season's flower crop.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Fruit Houses.

Grapes.—Muscats are now maturing or mature, and the borders meanwhile should be kept dry on the surface and a current of air allowed to pass through the vinery night and day. Keep all young growth rigorously repressed, and it may be necessary to apply a thin dressing of whiting to the roof to keep down the temperature. Later Grapes will need less ventilation, now that the nights are becoming colder and longer. Should mealy bug be present on earlier Vines from which the Grapes have been cut, vaporise repeatedly with a nicotine compound. Hot water syringed on the leaves and rods also has a beneficial effect, a slight addition of Gishurst Compound to the water being of much value, but care must be exercised that it is not made too strong.

Tomatoes.—Plants ripening in cold structures, if requiring water at the root, should receive one soaking, and they ought to go on without any more. That, of course, refers to those growing in borders. It is very important also, after this date, to reduce expansive foliage, sometimes as much as one-half where the plants are rather closely planted, and every bit of young growth must be rigorously removed as soon as it can be handled. Except on very hot days no ventilation need be given, Tomatoes in all stages of growth revelling in great heat, and the fruits ripen and colour perfectly without ventilation. It is well to remember, however, that dryness is important, as on cold nights the fruits would rot and drop before maturity.

The Fruit Garden.

Plums.—The earliest are now ripening and should be netted to ward off the attack of birds where these are troublesome. Usually Plums are picked before they attain perfect maturity. Even culinary varieties may be used for dessert when allowed to hang long enough on the trees. Always retain the stalk when these are to be kept a few days before being eaten.

The Flower Garden.

Geraniums.—These have still a place to fill in the flower garden, and apart from the æsthetic point of view from which some have condemned them, there is no doubt that the cutting up of the beds in autumn for propagating purposes has done much to lessen their estimation. If, however, the cuttings are carefully selected now, no harm will be done, but rather good, by the removal of shoots that are perfect for propagating, but which if left would unduly crowd the beds without yielding flowers. Besides, cuttings root better now than if delayed till a later date. After being severed they should be made at once by cutting across under a leaf and removing some leaves and any flower-trusses. Then lay them for at least forty-eight hours on the ground in the open, but not in the sun, after which they are ready to be dibbled into boxes filled with a rather sandy compost. Stand the boxes in the full sun on wooden trellises, and apply no water, if possible, till the cuttings have formed a callus.

Herbaceous Borders.—These are now assuming their autumnal brilliance, and bi-weekly attention will be needed to remove spikes going to seed, shoots that intrude on their neighbours, and the introduction of extra plants in reserve to replace spots that have become bare by the passing of earlier-flowering plants. Some years it is necessary to apply a soaking of water about this date, which, if in sufficient quantity, will carry on the plants without giving any more.

General Work.—If grass edges, path verges, and the grass near shrubs and trees have been regularly trimmed from time to time, there will be little to do in that way henceforth; and it will be noticeable in cases of inattention to these details how the working up of long-delayed operations grates on the sensibilities when inspecting gardens where this occurs.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

A Tale of Woe (from London, E.4).

I THOUGHT I had *some* grievances in the garden here in this remote spot, in the shape of rabbits, which, like the poor, are always with us, and also pheasants, which steal the fowls' food—no joke in these days! I, like others, inclined to laugh a while ago at Mr. Lloyd George and the Mangel-wurzels, but on two occasions, finding the Turnips scratched up and badly bitten, and thinking, of course, it must be rats (which are the country equivalent of the "lodging-house cat"), set a trap, and next morning the gardener found the thief had paid the death penalty—but—was a fine cock pheasant. I had half a mind to send the last one to Mr. Lloyd George that he might take him, with the Turnips suspended round his neck (the pheasant's, I mean), and exhibit him in Parliament. But *my* troubles sink into insignificance compared with the following extract from a friend's letter from London, E.4, as follows: "We are having a piece of bad luck. Something got over the fence from the field by the Forest (Epping) and trampled over Onions and Carrots and started eating things. On Wednesday morning we discovered it had been a Deer, and more damage was done. We have now found out that three came over last night. They have cleared off the tops of most of the Spinach, Beetroots, Carrots, Rose trees, Delphiniums, Runner Beans, big white Daisies and other things. They look as if a scythe had taken off all the tops and blossoms, and, in the case of the Beans, as if a scythe had gone down each side and taken all the leaves. They have eaten two rows of young Cabbage plants, trampled on Onions and Carrots and rooted them up, and walked through some Broad Beans and Potatoes. We are in great trouble about it because we don't know how to stop it, and have only a small piece of vegetable garden. The gardener had put some strong wire at the part they had come through before, but they have made a fresh entrance through the hedge and jumped our fence. The hedge goes all down one side of our garden and on down the side of fields, and the other side of the hedge is the Forest, and that is where they come from. Isn't it vexing?"

I have replied to this tale of woe as follows: "The first thing is to stop the Deer from coming in. Now (knowing what a nice orderly woman you are) I guess your hedge top is clipped so that a spirit level could lie along it without having its equilibrium disturbed; not like *my* hedges, with wide-flung sprays waving in the wild west winds. (This sounds rather reminiscent of Rudyard Kipling's Wild Cat 'walking alone on the wet roofs, with his Wild Tail waving'). Now Deer, as everyone knows, *hate* a ragged fence, and rarely, if ever, will jump one. Hence the 'deer-palings' round parks. Perhaps you could plant your poor denuded Bean poles along in the hedge, at irregular heights. The Deer would dislike them. Next, from my Cabbage seed-bed I'll send you all sorts of autumn Cabbages, and Cauliflowers, and Broccoli, Brussels Sprouts and Kales. I've some 25 kinds I am still planting out, and plenty to spare. It's not too late to sow a latest crop of Peas, such as 'Little Marvel,' and French Dwarf Beans, and a latest row of Summer Spinach. You can buy some Celery plants and put in a row of these, and it's exactly the right time (end of July and 1st week in August) to sow all sorts of autumn vegs.—Carrots, Turnips, Onions, Lettuces, to carry you on till Xmas, and there will be the aforesaid winter and earliest spring 'greens' going on till March. So cheer up! for tho' nothing can now *at once* replace your lost summer crops, winter vegetables are really more profitable and not so cheap nor easy to buy. (I hope the Delphinium has disagreed with the Deer!)" I venture to send this, hoping some of the numerous North Countree readers of THE GARDEN who are more familiar with the ways of deer will send some helpful suggestions for poor "E.4."—ANNE AMATEUR.

THALICTRUM DIPTEROCARPUM (*First-class Certificate*).

Thalictrum dipterocarpum

THOSE who are looking out for suitable inhabitants for a cold, unheated greenhouse should buy seed of this delightful novelty and raise some plants for themselves. There seems to be a little difficulty in keeping it alive as a border perennial, but there is none whatever if it is treated as a pot biennial. A small batch of plants in 3½-inch pots stood all last winter in a friend's unheated and unprotected greenhouse. Each one was frozen through and through. In early March they were transferred into 5-inch or 6-inch pots, in which they have thrived amazingly. The inflorescence of T. dipterocarpum is singularly graceful. The top of the slender, delicate spike is made up of opaque lavender-coloured pearls, which gradually become transformed into small four-cleft parachutes. These together bear up tiny tassels of pale buff stamens. This variety lasts well as a cut flower. J. JACOB.

New and Rare Plants

FIRST-CLASS CERTIFICATE.

Thalictrum dipterocarpum.—This unique and elegant species received an award of merit on August 18, 1908, and that a nine years' experience of it warrants its promotion to the higher award will, we think, meet with general approval. The plant attains 5 feet to 6 feet high, and above the elegant Meadow Rue like foliage rise the graceful inflorescences to which it owes its charm. It is one of the best of the Veitchian introductions. From Mr. J. C. Allgrove, Middle Green, Langley, Slough.

AWARDS OF MERIT.

Anemone vitifolia tomentosa.—A remarkable plant of exceptional vigour and freedom of flowering. In the mass the effect is not unlike a rich rosy pink A. japonica, though it is weeks in advance of any variety of that species. The large, deeply lobed, Vine-like leaves are whitish beneath; above them and reaching a yard or more high are clusters of the cupped, rosy pink, sub-erect blossoms on 4-inch-long pedicels, which with the golden anthers are singularly effective. A distinct and useful plant.

Gentiana Purdomii.—A graceful and elegant species from China which also promises to be an easy doer. The radical leaves are lanceolate, 4 inches to 5 inches long, three-quarters of an inch broad, the procumbent stems bearing axillary and terminal clusters of rich royal purple flowers freckled with white at the base of the corolla lobes. These were shown by Mr. J. C. Allgrove, Middle Green, Langley, Slough.

Gladiolus Sunspot.—A distinct and beautiful hybrid of gandavensis and nancyanus. The handsome flowers are coloured pale salmon and shaded yellow, the conspicuous vermilion scarlet blotching on the lower petals rendering it highly attractive. Shown by Messrs. James Kelway and Son, Langport.

Cattleya Rosita Orchidhurst Variety (C. Prince John × C. iridescens).—A hybrid of conspicuous beauty and merit which embraces the bold, broad C. labiata lip and the distinct sepals and petals of C. Iris. The above awards were made at the recent meeting of the Royal Horticultural Society. From Messrs. Armstrong and Brown, Tunbridge Wells.

The Royal Horticultural Society

THE ordinary fortnightly meeting was not of great extent on July 31, though some excellent groups were staged, several important plants receiving recognition. It was, however, rendered the more interesting and instructive by the holding of the annual exhibition of dry bulbs, these unmistakably demonstrating the excellence of the home-grown article. For the rest, Hollyhocks and Gladioli were particularly good, and rarely have the first named been shown so perfectly clean and free from disease. Phloxes, too, were very finely presented. Orchids and fruits were in the minority. Three hardy plants and one Orchid gained awards.

FRUIT AND VEGETABLES.

Well-fruited branches of Plum The Czar were shown by Mr. H. Close, Orpington, Kent, the examples remarkably healthy and clean. A small collection of Apples from Messrs. S. Spooner and Sons, Hounslow, contained fine baskets of Beauty of Bath, Langley Pippin, Early Red Margaret and Mr. Gladstone, early dessert sorts; also dishes of White Transparent, Lord Suffield, Grenadier and Potts' Seedling. Messrs. Dobbie and Co., Edinburgh, showed their new Broad Bean Dobbie's Broad Windsor, which recently gained an award of merit. As a result of field culture, sown on March 1 last, they were splendid.

ORCHIDS.

Messrs. Armstrong and Brown, Tunbridge Wells, showed several choice things—Cattleya Illustris Orchidhurst Variety (golden with crimson fringed lip), C. Saturn alba (very pure), Odontioda Henryi, and the lovely Cattleya Rosita Orchidhurst Variety (see "New and Rare Plants)." Dendrobium Thwaitesæ was also good. Silver Flora medal. In Messrs. Charlesworth's group Miltonias were well represented, M. vexillaria Cordelia, M. v. superba and M. Hyeana being noted. Lælio-Cattleya Appam (yellow sepals and crimson purple lip) was also good. Silver Flora medal.

HARDY FLOWERS.

There was nothing so fine in this section as the graceful and elegant grouping of Thalictrum dipterocarpum from Mr. J. C. Allgrove, Langley, Slough, the examples, cut at ground level, showing this delightful plant at its full worth. Gaining a first-class certificate, it is referred to in fuller detail under "New and Rare Plants." Other important things from the same source were Astilbe simplicifolia, Campanula haylodgensis fl.-pl., and the very beautiful Anemonopsis macrophyllus, whose waxy, pink flowers above Astilbe-like leafage are very pleasing. Bronze Flora medal. In that from Mr. G. Reuthe, Keston, Micromeria croatica (pink flower on an erect Thyme-like bush), Campanula Warley (double, deep blue, not far removed from C. haylodgensis fl.-pl.), Mimulus primulinus (a golden miniature) and Polygonum amplexicaule atropurpureum were some of the more distinct things. Silver Banksian medal. The double Hollyhocks from Messrs. James Vert and Sons, Saffron Walden, were exceptionally good; in recent years we have not seen them finer or more absolutely free from disease. Crimson Queen, alba superba, Black Knight, Walden (yellow), Apple Blossoms, Salmon Queen, Lady Bailey (rose) and exultum (dark crimson) were some of the best, single flowers and towering spikes alike demonstrating high excellence. A welcome and refreshing exhibit. Silver Banksian medal.

GLADIOLI AND PHLOXES.

Of the first named Messrs. J. Kelway and Son, Langport, set up a fine exhibit and gained a silver-gilt Banksian medal, the high quality of the spikes leaving nothing to be desired. Painted Lady (white, with vermilion scarlet blotches), James William Kelway (crimson scarlet), Lloyd George (light scarlet) and King of Gladioli (salmon scarlet with yellow) were some of the best. A large series of primulinus hybrids were also staged. The fine array of herbaceous Phloxes from Mr. H. J. Jones, Lewisham, gained a silver Flora medal, the trusses being set up in bold stands. Mrs. Alder (soft pink, new), Doreen (salmon, very fine), Rev. Gilbert Raynor (reddish scarlet), Elizabeth Campbell (salmon, quite an indispensable) and Widar (deep violet, white centre) were among the best.

TREES AND SHRUBS.

Messrs. J. Cheal and Sons, Crawley, gained a silver Flora medal for a good exhibit of these, Spiræa sorbifolia stellipeda, with white plumes, and the crimson Spiræa Anthony Waterer being very prominent. Calycantha occidentalis, Cladrastis amurensis, Elæagnus multiflorus (full of scarlet fruits) and Hypericum patulum Henryi were among good things. In a like exhibit from Mr. L. R. Russell, Richmond, Ilex latifolia, Salix rosmarinifolius (an elegant plant of silvery effect), Menziesias of sorts, Acer platanoides Drummondii, A. japonica laciniatus and Juglans regia laciniata were among the more distinct. Silver Banksian medal.

GREENHOUSE PLANTS AND FLOWERS.

Vases of unnamed things from Mr. H. J. Elwes contained Bomareas, Campanula Vidalii, Crinums of sorts, Hunnemannia fumariæfolia, Hedychium and other interesting things. The Fern group from Messrs. H. B. May and Sons, Edmonton, contained good examples of Polypodium Mayi, P. glaucum crispum (both highly ornamental), Nephrolepis Millsii, N. gracillimum, the climbing Davallia nobilis and Selaginella cæsia arborea, among others. Many hardy Ferns were shown. Silver Banksian medal. Very good Carnations were shown by Messrs. Allwood Brothers, Hayward's Heath, Circe (heliotrope fancy), Champion (scarlet), Destiny (cerise), Salmon Enchantress (very fine) and Bishton Wonder being excellent. Princess Victoria (a new salmon seedling from May Day) and Mary Allwood were, however, the greater attractions. Silver Banksian medal.

BRITISH-GROWN BULB SHOW.

The competition was less keen and the entries fewer than in last year's exhibition, no Daffodils being shown to equal the giant breeder bulbs from Ireland which were so marked a feature of the first year's show. The open Tulip class for not more than twenty varieties was the most keenly contested, five collections being staged, the produce generally first-rate. Here it would almost appear there is room for a division which would place the more easily cultivated Darwins in a class alone, with a separate class for early bedding and other sorts.

In the amateurs' class for a collection of ten varieties, of which five at least must be Daffodils, two exhibitors staged, Mr. George Stocks, Bentley Road, Doncaster, being first. Lucifer, Monarch, Weardale Perfection and Mme. de Graaff were the best Daffodils; King Harold, La Tulipe Noire and Sophrosyne the best Tulips. Miss V. Warren, Canterbury, was the other exhibitor.

Twenty varieties of Daffodils, single bulbs, brought several exhibits, the leading prize going to Messrs. J. R. Pearson and Sons, Lowdham, for a very fine all-round sample far and away above the top sizes of the Dutch growers, or what is called by them double or triple nosed. Florence Pearson, J. B. M. Camm, Vaga, Weardale Perfection, P. R. Barr, Emperor, Gloria Mundi, Empress and Seagull were noted. Messrs. R. H. Bath, Limited, Wisbech, were second with smaller bulbs of a very excellent sample. In this Crystal Queen, Sir Watkin, King Alfred, Grandis, Mme. de Graaff, Barri conspicuus and Bernardino were the chief. Messrs. Hogg and Robertson, Dublin, were third; Mr. J. Mallender, fourth.

The class for twenty varieties of Tulip bulbs brought five competitors, and here was doubtless seen the best produce the exhibition contained, with also evidence of the highest cultural skill, and a complete demonstration that the British-grown article, intelligently cultivated, is without equal. Messrs. J. R. Pearson and Sons, Lowdham, were placed first, the firm, with a single exception, staging all Darwins, whose superb size and quality doubtless carried weight with the judges. Nothing of its kind could possibly have been finer. Fra Angelica, Marie, Faust, Psyche, Violet Queen, Pride of Haarlem and Farncombe Sanders were some of the varieties staged. Mr. George Monro, jun., Spalding, Lincs, was placed second with a superb collection which represented even higher cultural skill than the first-prize lot. Only four varieties of Darwins were staged; all the rest, save Mrs. Moon, were early single bedding sorts, varieties of a more exacting nature culturally than the Darwins. Prince of Austria, Washington, Sir T. Lipton, La Reine, Princess Helena, Keizerskroon and Rose Gris-de-lin were some of the early singles; Murillo and Vuurback, early doubles. Higher quality or more perfectly finished bulbs we have not seen. Messrs. Hogg and Robertson, Dublin, who were third, were strong in singles. Messrs. R. H. Bath, Wisbech, were fourth.

Two competed in the class for not more than thirty varieties exclusive of Daffodils, diversity of genera and species being a consideration. Here Messrs. Barr and Sons, Covent Garden, W.C., were well first with a remarkable collection which included Colchicums, Eremuri, Alstrœmerias, Crown Imperials, Anemone fulgens (very fine), A. nemorosa, Leucojum, Winter Aconite, Sparaxis Scarlet Gem, Iris bucharica, I. Susiana (both superb), Lilium pardalinum, English Irises, Muscaris, Oxalis floribunda and others. Ample representatives of all were set up. Messrs. Hogg and Robertson were second with quite a good lot, in which Ixia, Crocus, Gladiolus Ackermannii, Dutch Irises, Muscari conicum and M. c. Heavenly Blue (grand samples both), Sparaxis Fire King, Hyacinthus azureus, Colchicums and Ranunculus asiaticus were included. A most interesting collection.

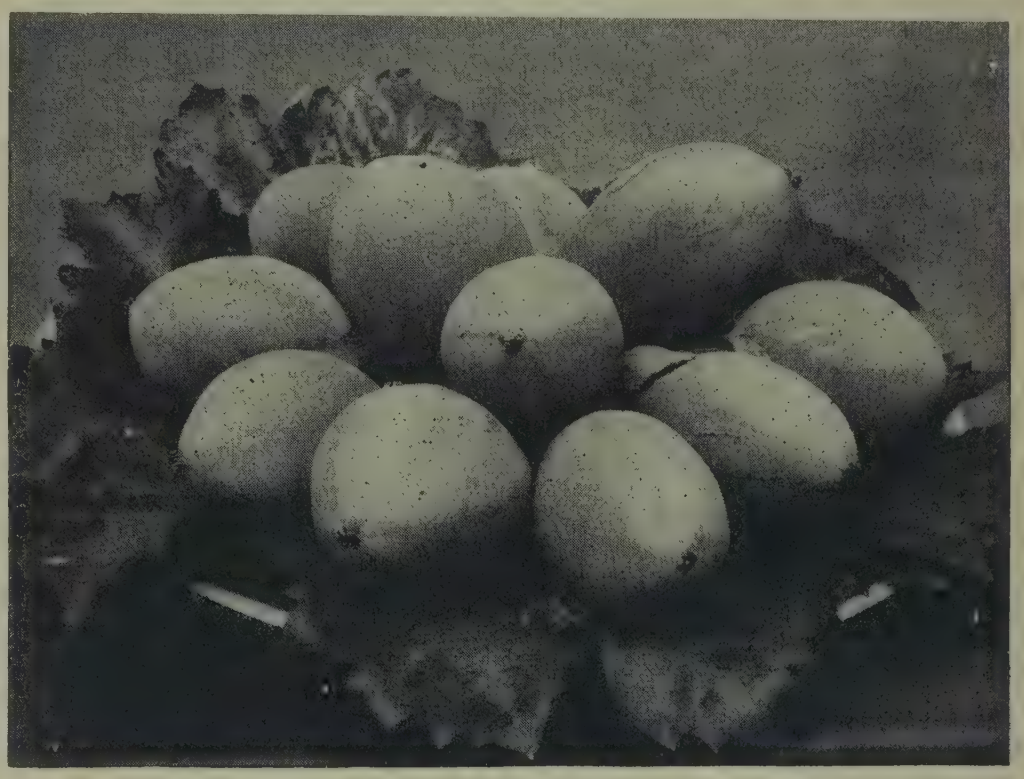
ANSWERS TO CORRESPONDENTS

FRUIT GARDEN.

TOMATOES ATTACKED BY SPOT DISEASE (*P. J. T. H.*).—Your Tomatoes are attacked by the spot disease. We recommend you to remove the affected fruits as soon as they are seen, to ventilate the house as freely as possible, and to take great care that the watering is done regularly and carefully, so that the skin of the fruit does not become set, with the consequent liability to crack on subsequent watering.

UNEVEN RIPENING OF TOMATOES (*W. O.*).—The uneven ripening of the Tomatoes of which you complain is usually ascribed to deficiency of potash, and if potash salts can be obtained, we recommend you to water the plants with sulphate of potash at the rate of half an ounce to the gallon of water once or twice a week. We find aphis and the fungus Cladosporium fulvum present on the foliage. Both of these are harmful, and we recommend you to fumigate for the former and ventilate very freely on all possible occasions as a means of keeping the latter in check.

GRANADILLAS AND OTHER EDIBLE-FRUITED PASSIFLORAS (*E. M. D.*).—The true Granadilla is Passiflora quadrangularis, a native of Nicaragua, but now widely grown throughout the Tropics for the sake of its edible fruits. These last are about the size of a small Marrow, and contain a considerable amount of delicious pulp. This Passion Flower is best propagated from cuttings, as the plants so obtained fruit more freely than seedlings. It requires the temperature of a stove, and should be given a considerable space for its development. The best plan is to plant it out in a prepared border and train it to the roo of a good-sized structure The second edible species is Passiflora edulis, whose fruits are about the size of a large Plum and of a deep purple colour when ripe. It is by most persons preferred to P. quadrangularis, as it fruits far more freely, the flavour is much appreciated, and it will thrive in a structure maintained at a somewhat lower temperature than for the true Granadilla. What is known as a warm greenhouse or intermediate temperature will suit P. edulis. Cuttings of both species are not at all difficult to strike if put into pots of sandy soil and placed in a close propagating-case in a stove temperature. Messrs. J. Veitch are no longer in business, but most probably you could obtain either of these Passion Flowers from Messrs. Stuart Low and Co., Royal Nurseries, Bush Hill Park, Middlesex.



A DISH OF PASSIFLORA EDULIS.

SUMMER PRUNING APPLES AND PEARS (*Cliffe*).—In the case of bush and pyramid trees growing in open borders, the right method is to slightly shorten the leaders (or terminal shoots) at the end of the main branches at the summer pruning, further cutting the same at the winter pruning, the weaker ones to within seven buds of their base and the stronger ones to within nine or ten buds of their base. In the case of trees growing against walls, it is usual not to shorten the terminal shoot until the winter pruning. With regard to your 24-inch shoots, we should shorten them now to 15 inches, and the 12-inch shoots to 9 inches. These latter should again be shortened in winter by three buds, and the longer ones by six.

PEACH STONES SPLITTING (*F. H. R.* [?]).—The Peach on arrival was reduced to a jelly, and our correspondent's letter, being mixed with the jelly, was practically undecipherable. (Lesson: Do not enclose letters in the same parcel as perishable fruits.) There is a difference

of opinion among people as to the cause of stone-splitting. The larva of a beetle (Anthonomus druparum) is responsible, some say; others, a deficiency of lime n the soil or imperfect fertilisation of the flowers; others say it is culture which is at fault. We think the cause is to be attributed to the soil being exhausted of some elements necessary to the formation of the stone, probably lime chiefly. In any case the best remedy to apply is to lift the trees, if they are young, as soon as the leaves have dropped, and replant in the best new Peach soil compounds procurable. If the trees are getting old and have not been lifted before, the best way is to take off the surface soil until a fair body of roots has been exposed, and then add a top-dressing of the following soil compound, placing it on 5 inches deep and pressing it firmly down: To one barrow-load of best fibrous loam of a fairly heavy texture add half a peck of lime, half a gallon of bone-meal, the same of wood-ashes, a gallon of old mortar rubble, and the same of brick-ends, broken small. Give the border a thorough watering before the top-dressing is applied. Lastly, cover the border with short, well-decayed manure to the depth of 3 inches or 4 inches. The winter rains will wash the goodness of the manure into the soil and so, we hope, prevent this trouble for the next few years, at any rate.

WHITE FLIES ON TOMATOES (*J. W. Y.*).—The white flies infesting the leaves of your Tomatoes are frequently known as Tomato flies, owing to these plants being particularly liable to their attacks. They are exceedingly difficult to get rid of, but may be destroyed by the fumes of hydrocyanic acid. This is, however, too dangerous a poison to be recommended for general purposes. They can be destroyed by vaporising with the XL All Vaporiser or one of the strong nicotine compounds now on the market. A single vaporising is of no use whatever, as the eggs are not affected by it and in a few days they hatch out. For this reason the vaporising should be done at intervals of three or four days until the plants are clear. One point to bear in mind is that at the first application of the nicotine vapour many of the insects drop to the ground and a fair proportion of them are not killed, so that they again quickly take their places on the plants. A good plan to check this is to do the vaporising in the evening and leave the house shut up during the night; then early in the morning water the paths and underneath the stages with boiling water or paraffin emulsion. The leaves sent by you were badly affected. The very worst may be picked off and burnt. The other specimens are, No. 1, one of the Evening Primroses (Œnothera), but the specimen was too much shrivelled for identification; No. 2, Rubus odoratus.

KITCHEN GARDEN.

POTATOES ATTACKED BY SCAB (*J. H. D.*).—The Potato sent is very badly attacked by the disease called black scab. You must give notice to your Board of Agriculture at Edinburgh and destroy by fire all diseased tubers and plants. You must let none of the Potatoes from your garden leave the premises, nor should other plants or soil be carried thence. Next year either refrain from planting Potatoes at all (and so for seven years, for the soil will remain infective for that length of time) or else plant only those varieties which are immune from the disease and a list of which has appeared in THE GARDEN.

ROSE GARDEN.

ROSE FOLIAGE DAMAGED BY INSECTS (*G. H.*).—The trouble is caused by the mason bee. Probably it has its nest in a gravel walk or some woodwork close by. Watch on a sunny morning and you will see some of the bees hovering around. You can bring them down with a syringe, or, better still, trace the nest and destroy it.

ROSES F. R. PATZER, DOROTHY RATCLIFFE AND FRANCOIS MICHELON (*Maida Vale*).—The first two kinds are good, but there are others equally fine. Margaret is a better Rose than F. R. Patzer, and Dorothy Ratcliffe is a terror for mildew. Ophelia would be a far better Rose. François Michelon was the parent of Mrs. J. Laing, but it is not half as good. Admiral Ward is the nearest approach to Château de Clos Vougeot; it is a fine Rose.

CLIMBING ROSES NOT FLOWERING (*J. J. K.*).—The growths the plants are now making will give you blooms next summer, and it would be folly to cut them back hard. You may remove the extreme ends in October so as to ensure a good hard condition of the wood; otherwise do not prune either in autumn or spring.

COLLECTIONS OF ROSES (*F. M., Yorks*).—You will be well advised to follow the selections given by the National Rose Society, for they are prepared by experts, whereas growers usually make up their collections of sorts of which they have an abundance, frequently omitting the most popular. It would be best for you to go to a Rose specialist and tell him exactly your requirements, saying you wish for the best Roses of each colour suitable for your district. Any good grower would give you such a list. Even the National Rose Society omit some kinds which are far superior to those they name, and, of course, novelties are constantly added that supersede the older sorts. One may as well have the best, though not necessarily the most expensive.

FLOWER GARDEN.

PRIMULAS BULLEYANA AND PULVERULENTA FROM SEEDS (*C. B. B.*).—If you have been dealing with fresh seeds of these, we are at a loss to understand your difficulty in raising seedlings, since probably no two species vegetate more freely or at a higher percentage. If the seeds were old or had been kept for months in some particularly dry place, the failure is more readily explained. Primula seeds under such circumstances quickly deteriorate, or, it may be, lose vitality altogether. The species named are bog-loving subjects virtually, and in Nature shed their seeds on wet ground; hence the seeds are never dried off. These moist soil conditions are of the utmost importance when raising seedlings in gardens, and in conjunction with good and fresh seeds would soon yield an abundant crop of seedlings. On wet ground beneath the plants we have had seedlings spring up in their hundreds in the course of a couple of months, and left till the March following are ready for transplanting without having received the least attention. The seeds of both species are now ripening, and if you sow at once in pans of loam and leaf-soil previously saturated with water, keeping the soil moist almost to wetness—the pans being preferably in a shady place—no further trouble should be experienced. Cover the seeds lightly, sand of the thickness of a shilling being sufficient.

TREES AND SHRUBS.

CEDAR CONES FROM LEBANON (*E. W.*).—Cones of Cedars are not planted whole. They are broken up and the seeds separated from the scales before sowing. As your Cedar cones are sixty years old, however, there is no possibility of the seeds being alive, therefore it is not worth while sowing the seeds. Seeds matured in this country vegetate quite well and produce fine plants. Such seeds are usually sown in pots, indoors.

LICHENS ON YEW TREE (*Mrs. J. S. Turnbull*).—It is difficult to suggest anything that will kill lichens on an evergreen without injuring the leaves. Lichens on deciduous trees can be killed in winter by spraying the trees with a caustic soda wash, but such a wash cannot be applied to evergreens without serious danger of killing the leaves. Perhaps if you were to fork the ground lightly beneath the tree right to, or rather beyond, the outer branches, then apply a dressing of well-rotted manure, or water the tree now and then with cow-manure water, more vigorous growth might be encouraged which would assist the tree to resist the growth of lichens.

BAY TREES INJURED LAST WINTER (*W. F.*).—If the older wood of your Bay trees is alive, all the dead wood should be cut away and the plants be stood outside, syringing them two or three times a day during hot, dry weather. Such pruning ought, however, to have been done in May, as that would have allowed of a long growing season. Now the new wood will not have a very good chance of maturing before winter. If the older wood is dead, however, the bushes may as well be destroyed at once. As you say that new shoots are appearing in places, we suspect that a great deal of the wood may be alive.

MISCELLANEOUS.

HARVEST BUGS IN A GARDEN (*H. H. W.*).—Harvest bugs appear to prefer low herbage of all sorts, not only grass, and generally attack people from such haunts. Such herbage would be almost, if not quite, impossible to spray effectively. Sprays capable of killing mites such as these and red spiders are few and far between, and rather difficult to apply as a rule, sulphur being the most effective ingredient of them. Rubbing the affected parts with Oxydol is the best-known means of alleviating the irritation which they cause.

SUGAR BEET (*W. S. C.*).—Our experience with Sugar Beet does not lead us to say it can with advantage be mixed with fruit for jam or even for stewing. We can recommend the syrup as extracted from the roots when 4 inches in diameter, after boiling for seven hours, for use with stewed fruit in the place of sugar, and also for use in bottling fruit in the place of water or syrup. The syrup extracted from roots boiled last March has kept perfectly good in airtight bottles; therefore we may reasonably say that this year's crop of Sugar Beet will prove useful next year. There does not seem time to grow a crop and make use of it the same year for jam or bottled fruit. Sugar Beet when boiled appears to lose all its saccharine taste and is not nearly so palatable as the ordinary red garden Beet; it partakes more of the Mangel-wurzel flavour, from which plant it was probably obtained.

German Prisoners for Tree Planting.

THIS letter is a plea for the immediate replanting of part of our devastated British woodlands and the utilisation of trees in British nurseries now ready for planting. Forest trees will not wait a convenient season for planting. When they arrive at the required size they must either be planted out or destroyed. The latter fate has befallen millions of trees during the past three seasons, and an effort should be made to save the present year's crop. Absence of a market has discouraged the cultivation of forest trees, and cleared land in nurseries is being placed under farm and market crops. This will result in a very small out-turn of trees during several years, even should the nursery trade receive an inducement to resume its legitimate occupation at once. In the event of the present conditions prevailing for several seasons longer, not only will our home timber supply have disappeared, but the raw material for its replacement will not be forthcoming. To be almost devoid of a home timber supply over a long course of years will create a dangerous situation in the future, and any means which will reduce the hiatus in the succession should receive careful consideration The chief obstacle to immediate replanting is lack of skilled labour, and this can be supplied by German prisoners of war. A very large proportion of the men reared in rural districts in Germany are accustomed to woodland operations, and from the prisoners in British custody enough labour could be recruited to carry out the large forestry schemes which the situation demands. One thousand men skilled in the work could in ordinary conditions plant 750,000 trees per day, and would in all probability be able to dispose of all the trees now available in the private and trade nurseries in Britain. Proprietors of large estates would in many cases be glad to avail themselves of this source of labour where the reduction of estate staffs prohibits planting by their own men. That such an arrangement is practicable has been proved by an enterprising Scottish County Council, which planted almost 200 acres of land in the spring of 1917 with the labour of fifty German prisoners and a few schoolboys. In this case the work done by the prisoners was found entirely satisfactory, and no attempt was made to evade the guard. One-tenth of the men were found to be either skilled foresters or gardeners, and proved excellent workmen. By the action of this County Council approximately 700,000 trees were saved from destruction, and will in time become a valuable national asset. Had this labour not been secured, these 700,000 trees would assuredly have gone to make bonfires. As before stated, the succession of trees standing in nurseries is running out, but there is still a sufficiently large stock in existence to form plantations of considerable area which would in days to come show an excellent return, both in individual profit and national security.—NURSERYMAN, in *Country Life*.

Queensland Gum Trees and Malaria.—The *Scientific American* has the following: "During the later decades of the nineteenth century it was a common practice to plant Blue Gum or Eucalyptus trees from Queensland in the districts affected by malarial fever. It was held that the essential oil produced by the leaves combated the harmful vapours rising from the swamps laden with the poison of the disease. The theory that Eucalyptus trees neutralised the poison vapours is nonsense; yet the fact remains that where Blue Gums were freely planted there was always a notable decline in the amount of malaria. For instance, in a certain district near Algiers the placing out of thousands of Eucalyptus trees completely transformed the conditions. Malarial fever of a peculiarly virulent type had formerly been a constant feature, but within twelve months of the planting of the Blue Gums the disease entirely disappeared, and is now unknown. What is the explanation of this circumstance? It has been demonstrated that, of nearly all trees, the Eucalyptus absorbs the greatest amount of water. Seeing that Blue Gums increase in height with great rapidity, the amount of moisture taken up increases on a greatly progressive scale. And this is just what brings about the downfall of the malarial mosquito. To complete its life cycle it is necessary that this insect should pass its larval stage in pools of water. With the coming of the Eucalypti these pools, and indeed all marshy places, disappear; the breeding spots of the mosquitoes are gone, and in time the insects vanish altogether. The district is then free from malarial trouble, simply because the carriers of the disease are not able to keep going."

*** *The Yearly Subscription to* THE GARDEN *is: Inland*, 10*s*. 10*d*.; *Foreign*, 13*s*.

SOIL ANALYSIS

ENQUIRIES are frequently received from farmers and gardeners who wish to be informed where they can have soils analysed. In most cases, it is stated by a leaflet issued by the Board of Agriculture and Fisheries, the idea appears to be entertained that having a soil analysed is a ready means of determining its manurial requirements or of obtaining an indication of its fertility. A brief discussion as to how far this view is correct may therefore serve a useful purpose.

A complete soil analysis includes chemical, physical and bacteriological investigations, and may be accompanied by general field observations for the purpose of ascertaining the nature of the subsoil, the water supply, and climatic and other conditions important for the growth of plants. A full investigation of this kind, however, is very laborious, and in practice the analysis is usually less comprehensive, and aims not so much at giving a complete account of the soil as at determining the amounts of certain substances present in the soil which are known to have an important effect on crop production.

Experience has shown that a soil analysis is of little practical value when the interpretation is based on the results obtained from an isolated sample of soil from a district of which the analyst has no intimate knowledge. In certain special cases, *e.g.*, where it is required to determine whether a soil is in need of liming, an analysis may be of great assistance to the farmer; but even where the investigation is a comprehensive one the analyst can only give a very incomplete idea of the general fertility of a particular field. It is difficult to place an absolute value on the results, and the element of uncertainty enters too largely into the interpretation. The difficulty will be appreciated if an attempt is made to obtain information as to the best system of manuring.

The analyst can determine as accurately as need be the percentages of nitrogen, phosphates and potash in the soil; but it has been found that, even where external factors such as climate, depth of soil, &c., do not enter into the case, there is often little or no connection between these percentages and the soil's fertility or its manurial requirements. Any ordinary soil contains much more total plant food of all forms than a single crop of any kind can possibly require. Most of this plant food, however, is in a condition in which the plant cannot make immediate use of it, and is only gradually made available, the rate varying in different cases.

As the plant can only make use of the free or available food, it is clear that it is possible for one soil containing quite small amounts of the manurial substances to produce better crops than another soil containing large quantities, if for any reason the first soil gives up its material to the plant at a more rapid rate than the second. In fact, some soils contain large quantities of nitrogen and still respond most readily to small dressings of manure containing available nitrogen, because practically all that is already in the soil is unavailable and as far as the plant is concerned might almost as well not be there at all. This also holds equally for phosphatic compounds; a soil may contain a good deal of phosphate and yet respond to more.

It is true that in the case of phosphates and potash, a method has been devised of roughly measuring the amount which may be regarded as of immediate or prospective value to the plant by ascertaining the quantity which is dissolved out in a given time by a weak solution of citric acid. This method gives results which in many cases indicate fairly well whether a particular soil will respond to an application of either of the two kinds of manure, and may be used in comparing soils of the same class. At the same time there are many cases where the results obtained are at variance with those obtained by actual experiment in the field, and so far no ready method has been discovered by which the availability of the nitrogen in the soil can be estimated, except as regards the small amount present in the form of nitrates or of ammonium salts. It will be seen, therefore, that chemical analysis of an isolated sample of soil can hardly be expected to supply a very accurate and reliable means of determining its manurial requirements, and it is probable that a simple field experiment would yield better results.

It is not only a question of what the soil contains, but also of what the plant needs. A plant is a living thing and its needs are not constant, but vary with the conditions under which it is grown. Thus a plant needs more phosphates on a clay soil than it would on a sandy soil, and it needs more potash on a sandy or peat soil than on a loam. Again, a plant growing in a district receiving 32 inches or more of rain is in greater need of phosphates than in districts with less than 24 inches of rain.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.*

POTATO DISEASE.

URGENT APPEAL TO GROWERS.

SAVING THE CROPS.

The Food Production Department issued a statement last night in which they say that, although the weather generally has been favourable to the potato crops in most parts of England, serious outbreaks of disease are reported from Devon and several other counties, and it is most important that measures should be taken to ring-fence such outbreaks by promptly spraying crops in the surrounding districts.

All crops that have not yet been sprayed should be sprayed at once; all crops that have been sprayed once should be sprayed again within about three weeks of the first spraying. This course is dictated alike by enlightened self-interest and by patriotic feeling.

The first outbreak reported this year, in Pembrokeshire, was checked by immediate attention to the crops in districts adjoining that wherein the outbreak occurred. Isolated cases in Somerset and Dorset have been dealt with on the same lines. Should a period of damp, warm weather set in, no doubt outbreaks will occur in other counties. There is a fairly liberal supply of horse-drawn, knapsack, or hand sprayers of one kind or another in most districts, and there is no shortage in the supply of chemicals.

The only safeguard for potatoes against "late blight" is spraying. It is not too late to spray now. The process of spraying is simple and cheap, and the grower who loses his crops or imperils the crops of his neighbours by negligence can hardly be held blameless should the magnificent promise of a bumper potato crop fail to be realized. In cases where the foliage has made exceptional growth a boy or girl walking ahead and holding the foliage back with a stick will greatly facilitate the work of spraying.

An urgent note from the Food Production Dept.

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FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

IT is surprising the number of readers who are getting ready for the winter egg season At least that seems to be the run of things, judging by my recent correspondence.

Mustard for Poultry.—One correspondent says that he is striving to get as many eggs as possible from a flock of adult hens prior to killing them off, and adds that he has found Colman's Poultry Mustard a good aid to egg-production. Another reader asks if mustard has any feeding properties to recommend its use for fowls. A few words, therefore, on this subject may be of general interest. Experiments have repeatedly proved the fact that mustard *does* increase the egg-yield. During the season 1909–10—October to March—a trial was made at the Llangammarch Wells Poultry Farms, Central Wales, under the supervision of a County Council poultry expert. Six hens were fed on ordinary mash, while six others had a teaspoonful of Colman's Poultry Mustard added to the morning soft food. The former produced 369 eggs during the six winter months as compared with 532, the total from the six mustard-fed hens.

Aids Digestion.—Mustard has a peculiar effect on layers, acting as an aid to digestion and assisting in the assimilation of other foods fed. In this direction it is more or less an "appetiser." The result is that by better digestion, health and stamina are improved and disease repelled. Mustard-fed fowls are not so prone to colds, roup and similar ailments during the winter or in changeable weather, which is a great advantage. There is something in mustard, too, which maintains the staying power of fowls, and this is very noticeable when it is fed to breeding stock. It is a splendid aid to fertility, and thereby increases the vigour of the chicks hatched. It is probably the "pick-me-up" merits of mustard, too, which make it useful as an addition to the mash given to birds undergoing a strain to the system. I refer to those that are busy moulting or laying, and to young stock that are growing.

How to Give Mustard.—As regards the amount of mustard to give to fowls, this will depend upon their age and condition. Young, half-grown stock may have a teaspoonful added to the soft food three times a week for every twenty-four birds. For hens or pullets coming into lay, a teaspoonful to every twelve birds can be given daily, and when they commence to lay well the same quantity can be recommended three times weekly instead of daily. Care must be taken to see that the mustard is well and evenly mixed with the dry ingredients prior to the latter being moistened and dried off, or one hen will get more than her share of the "appetiser." During very cold weather mustard is a splendid ingredient of the mash, and my readers can use it with every confidence in the proportion recommended, as they can for birds that are moulting and young stock that are approaching maturity.

Scratching Shelters.—Many of my readers seem still to be adopting the small-house system of poultry-keeping. During the summer, when everything is favourable to the hen, small structures may be quite in order, but in the winter they are not conducive to the best egg-results. During the cold and wet weather experienced during the winter months the layers need a roomy, dry and light structure wherein they can scratch in the litter and be happy and contented if confined on unfavourable days. It is this kind of controlment which spells success in winter egg-production. A house of the intensive type is ideal, as it is really a sleeping house and scratching shelter under one roof. Any structure built on these lines is suitable. Many patterns of houses, however, are useless except as sleeping structures only, and they can only be remedied by having a scratching shelter erected against them. The side of the ordinary house (facing the south) can be used as the back of the shelter, the roof and sides of the latter being boarded in. The front can be boarded up at the bottom for about 2 feet, and above this can be fixed wire-netting. The latter is best controlled at the top by a glass or canvas hood hinged to the roof in such a way that it prevents rain from driving in.

Wattle Shedding.—The wattle shedding depicted in the July 28 issue of THE GARDEN makes a very useful scratching shelter for use in conjunction with ordinary houses. The front can be covered with wire-netting and the floor covered deeply with litter. It is surprising the number of uses to which these wattle shelters can be put. I have used them to great advantage for growing stock, placing one here and there and allowing the birds on range to exercise therein among the litter. In the latter the grain-feed was occasionally given as a change. Take, again, the intensive system of housing. Fowls kept intensively do not in all instances show a desire to wander from the building. This must not be encouraged, as it tends to taint the ground around the house.

Avoid Tainted Ground.—To prevent this tainting a good plan is to put a deep layer of gravel round the house and to remove this periodically, replacing it with a fresh supply. It is not a costly matter, as when the used gravel is taken up it can be carted away and piled up for the rain and sunshine to cleanse it. It can then be replaced and that in use treated similarly. A few of these wattle shelters placed here and there—no wire-netting being needed for the fronts in this case—a good distance from the house will encourage the birds to stray afield. Especially will this happen if the grain-feed is occasionally given in the litter. The flooring and litter must be kept dry. Such wattle shedding can always be strengthened by odd lengths of wood. The roof, too, can be thatched or covered with corrugated zinc, or covered with match-boarding laid on thatch. Again, sods of grass can be piled up against the back and sides. Strips of linoleum can be securely fixed over the wattle-work if desired.

Wattle Hurdles.—I am surprised that wattle hurdles are not more widely used by poultry-keepers. The majority, however, are not acquainted with the innumerable uses to which they can be applied. In the interests of my students I will mention a few. These wattle (woven hazel) hurdles are made in the standard size of 6 feet long by 3 feet high, and are easily driven into the ground, as stakes are provided along the bottom of each. Supporting posts are also provided. Ordinary wire-netting runs have the disadvantage of not providing the inmates with protection from bitter "ground" winds, which not only affects winter egg-production, but fertility during the breeding season. If the dividing partitions have a bottom of wattle hurdles, this drawback is removed, and the results are improved beyond expectation. During the rearing season better results would accrue if each coop was snugly accommodated in front of wattle hurdles arranged ∧-shape to keep the wind off.

Palm Kernel Meal.—I have received from Mr. Harry Hebditch of Martock an interesting letter wherein he endorses my opinion expressed in my notes of July 28 that palm kernel meal is one of the "war" poultry foods which will remain with us after the close of hostilities. He says that he cannot understand why poultry-keepers have not always made full use of this foodstuff. Times are changing, however, and he considers it to be as popular as any food just now with poultry-keepers. He attaches much importance to this new food, and assures me that stocks are heavy, which is all in favour of the poultry industry in general. The sample he sends is one of the finest I have seen, and, unlike the coarse kind I had to use in pre-war days, it is a finely ground meal. Its whiteness reveals the fact that the kernels themselves have been utilised in its production, which is another strong point. Most samples I have used have been quite brown, denoting a preponderance of the outer coating of the nut, which is rather indigestible and compares unfavourably with the white nut itself.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.2.*

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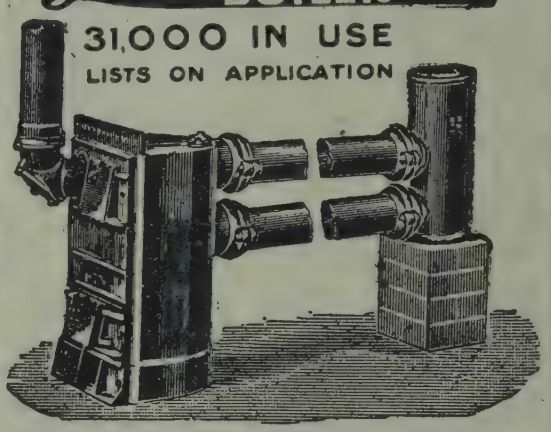

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IN accordance with the Board of Trade Paper Restrictions, and also that of the Post Office, catalogues cannot now be sent without a written application. We therefore beg to point out that the under-mentioned firms will be very pleased to send their useful catalogues to our readers free of charge, on receipt of a post card.

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THE GARDEN.

No. 2387.—Vol. LXXXI.] [August 18, 1917.

NOTES OF THE WEEK

THE illustration on this page has been sent by Mr. H. H. Warner, Broxbourne, Herts, and should, we think, encourage amateur vegetable growers. The Potatoes were grown on a waste and by no means clean piece of meadow land, all of which was double trenched, dug over and hand weeded by a gentleman who has passed the three score years and ten. The seed Potatoes—Golden Wonder—were supplied by the Herts County Council and planted during the last week in April. The tubers are fairly regular in shape, of a good average size, and of the colour which their name denotes. The foliage is remarkably vigorous and healthy, perfectly free from disease, and 4 feet in height. The soil they were grown in is the fine friable loam which has made the district so justly famed for its Roses, and it received no addition of any manure or fertiliser to produce these fine Potato plants, which are indeed a credit to their cultivator.

Fruit and Vegetable Shows.—The Royal Horticultural Society's Vegetable Show and Meeting will be held in the London Scottish Drill Hall, Buckingham Gate, Victoria Street, S.W., on September 25; also the autumn meeting for British-grown fruits on October 9. A schedule for both shows can be had on application to the Secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.

Sir Harry and Lady Veitch. Readers will join us in tendering heartiest congratulations and good wishes to Sir Harry and Lady Veitch on the occasion of their golden wedding, which took place on August 6.

New Rose Mrs. H. D. Greene (H.T.)—This is a very beautiful novelty, and cannot fail to be in much demand when distributed. Its colour is a lovely salmon pink, heavily suffused with rich golden apricot. The buds are particularly high coloured, quite a reddish apricot, and they are long and handsome. The size of the open bloom, also the form, will make it a grand show flower, and the profusion in which they are produced will also render the variety splendid for the garden. The foliage is not the least attractive attribute, the colour in the young state being quite a beetroot red, changing to rich bronzy green. The growth is vigorous and branching, and altogether it is a variety that we can highly recommend. Long rows in the raiser's nurseries were quite an outstanding feature even among the many beautiful novelties of recent years. Rose Mrs. H. D. Greene obtained a certificate of merit from the National Rose Society at the recent show. The raiser is Mr. Walter Easlea, Eastwood, Leigh-on-Sea, and we understand it will be placed in commerce next June.

Gypsophila elegans (rosea and alba).—This annual, Gypsophila, is quite as useful in its way as the better-known perennial, paniculata. Its flowers are considerably larger, and as they are borne on slender, wiry stems they look nice and light when cut and put into vases, arranged either by themselves or with other flowers. The pink variety goes very well indeed with a pink Sweet Pea like Elfrida Pearson, and the white with a white Sweet Pea. We have been told that in pre-war days the pink form was used to decorate the tables in the dining-cars of the French expresses.

Potato Epicure.—As an early variety for giving bulk and selling well, this is one of the favoured of early varieties, but it has not the best of reputations as a high-class cooking sort. Treated as a second-early the conditions change. The first week in August we tested a newly dug sample, and found them when cooked all that one could wish. The full-sized tubers were plentiful, shapely and clean, and well deserved a foremost place as a second-early variety, which the introducers, Messrs. Sutton, class it. This experience leads us to say that more time is needed to develop the true properties of this Potato, which is really not a first-early variety.

A PROMISING CROP OF GOLDEN WONDER.

Hedge Clipping.—This important operation should be hastened to completion. Box hedges in these pressing times may be left uncut for a year, but all others need trimming. The swing outwards that one so frequently sees in tall hedges is easy to overcome by giving the sides a slight "batter" off the perpendicular. This is never noticed, while, by cutting perpendicularly, the weight of rain and snow and the effect of wind push the top out, to the disquieting of persons whose eyes are susceptible to notice such things.

Increasing the Lavender Supply.—The month of August is the best period in which to increase the supply of Lavender bushes. So many persons waste time and space in inserting single shoots in cold frames when a much better plan is to break up an old bush by slitting pieces with four leads in a downward direction, thus ensuring an attachment of old wood. Cut off the extreme tops square to obtain an even plant. Such slips may be anything from 6 inches to 10 inches long. If these are dibbled firmly in gritty soil in rows 1 foot apart and 6 inches in the rows, leaving the tops 4 inches out of the ground, they will quickly make bushy plants.

Sweet Lavender.—Lord Arthur Hill is collecting Lavender from country gardens to be sold in various towns in aid of the Y.M.C.A. Auxiliary Maintenance Fund for Huts and Miss Lena Ashwell's "Concerts at the Front." The receiving office is at 101, New Bond Street, London, W., and any quantity will be most gratefully received and acknowledged.

A Useful Japanese Quince.—The common Quince, Cydonia vulgaris, is a well-known fruit-bearing tree, its large, fragrant fruits being popular for making into jelly, but it is not so well known that the fruits of other Quinces can be used for the same purpose, those of the Japanese Cydonia Maulei being specially suitable for the purpose. The fruits should be gathered when quite ripe, which is apparent by their golden colour, and they should be treated in the same way as the fruits of the common Quince. There is no reason to remove the rind, though the seeds ought to be taken away. In addition to the fruits being of value, it is a useful and very beautiful flowering bush, the brick-red flowers being very attractive during April and May.

Spencer-flowered Cupid Sweet Pea.—Mr. G. T. Dickson, Newtownards, has raised on Mendelian lines a Cupid Sweet Pea with waved flowers of the Spencer type by crossing (in 1913) a tall Spencer with the ordinary grandiflora type of Cupid Sweet Pea. The new form appeared in the second generation, and has since bred true.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

JUNIPERUS NANA.

IN reply to Mr. A. W. Stelfox, I am pleased to say that I have a nice little specimen of this Juniper which is perfectly upright. It is one of several 4-inch seedlings brought from the Highlands (Perthshire) a few years ago. All showed a certain tendency to creep at first, but soon assumed a pyramidal form. These Junipers, however, are not naturally so compressed in form as J. hibernica, for example. They have an inclination to become cleft or mitre-shaped, but I have not yet had to clip or wire mine.—A. T. JOHNSON, *North Wales.*

HYDRANGEA HORTENSIA.

YOUR correspondent "W. D." asks the origin of the specific name of this plant. It was called by De Candolle after Hortense de Beauharnais, Queen of Holland. The name became corrupted into "hortensis," and unfortunately is so entered in the Kew Hand List, whereby the historic association is lost. It is not only misappropriate, because the plant is no more a garden plant than several other species of the genus, but it also violates the rule of priority in appellation which we are bidden to observe in botanical nomenclature. Last week I saw in Mr. Carrick Buchanan's garden at Corsewall, Wigtownshire, a plant of this mutable species with the most vividly blue blossoms I ever beheld. It is growing unprotected in one of the terrace borders and attracted my attention from a distance of 100 yards. The trusses were as intensely blue as the brightest Larkspur; but cuttings from the plant have hitherto produced only pink blossoms.—HERBERT MAXWELL, *Monreith.*

COLOUR DESCRIPTION.

I WAS surprised to see in the "Flower Garden Notes" by such an authority as Mrs. C. W. Earle, in your issue of July 21, Iris pallida dalmatica described as *blue*, and the wild English Geranium also described as blue. Violet, mauve and rich Tyrean purple they may be, but never blue. It is quite hopeless to try to educate people into the proper use of colour in the flower garden while the colours of flowers are mentioned in this loose way. Mr. G. Dillistone, in his article on "The Garden Irises of June," writes of blue purples and red purples. Even this is rather misleading, and the term employed by artists—cold purples and warm purples—preferable. Blue is quite distinct from purple, and when the two colours are seen together they produce the same distressing effect on the eye as two semi-tones sounded together do on the ear, viz., a terrible discord. Combinations of colours that we should not tolerate in pictures and in the decoration of our houses should not be tolerated in our gardens. We do not want them to resemble some Early Victorian stained glass window where blues and purples, crimson and scarlet, were distractingly mingled.—H. H. WARNER, *Pant Einion, Briscoe Road, Hoddesdon, Herts.*

IRIS ROSENBACHIANA.

THIS fine Iris certainly deserves all the praise that Mr. Goodwin bestows upon it, though, except in sheltered gardens, it will probably be found to succeed better in a cold frame than in the open border. It is well worth raising from seed, and a whole frame in full flower in February and March is a cheering sight. There are certainly two distinct forms and probably two species concealed under the name Rosenbachiana: one, the first to come into flower, has yellow pollen and brownish roots, while the other has white pollen and whiter roots. This latter is probably the I. baldshuanica of Tedtschenko. These two Irises are widely separated, both by their seeds and by their strap-shaped falls, from the stemless Junos of Asia Minor, such as the various members of the persica group, all of which have winged falls, like I. alata. I. Danfordiæ is not a Juno Iris at all, but belongs to the reticulata section. It was first described from dried specimens, on which the outer reticulated coats are not very apparent, and was classed as a Juno because the standards are reduced to mere points—a character which is typical of the whole Juno section. The seeds, the leaves and the netted bulbs without roots in the resting state show at once that it is not a Juno Iris, but a relative of I. reticulata. One difficulty in its cultivation seems to lie in the fact that the bulb after flowering does not, like I. reticulata, split up into a few bulbs, one or two of which will flower the next year and the rest the year after, but forms at its base a large number of minute bulblets, no bigger than grains of wheat, which need careful nursing in heavy loamy soil if they are to develop into flowering bulbs.—W. R. DYKES, *Charterhouse, Godalming.*

GARDENS AND FORMAL GARDENS.

MR. ROBINSON has reminded me of the undergraduate who, given the subject "Esprit du corps," wrote an excellent essay on the immortality of the soul. Mr. Dillistone pleaded for the right application of an English epithet; Mr. Robinson returns a charming disquisition on red Anemones in the hay. He knows that I have always rendered him his full due for his great services to English horticulture, and he will therefore perhaps not take amiss my mild protest against the inadequacy and intolerance of his answer to Mr. Dillistone's very temperate plea. It is his habit to forget that it takes more than one man or one school to make the gardening world, as it does to make the world at large. He prejudices all fair readers, especially those who know the book, against himself when he writes (not for the first time) such a sentence as "This useless term ["formal"] was applied to the garden by two men who wrote a book about gardening . . . knowing nothing about it." He steps altogether outside his province when he legislates about the proper use of an English adjective, and this sentence about "The Formal Garden in England," by Messrs. Blomfield and Thomas, is—I use the term in as inoffensive a sense as Euclid's—absurd. In the first place these authors did not write, and they expressly say so, about *gardening* at all, but about *gardens*, that is about the planning and laying out of a garden without regard to its contents, which, despite Mr. Robinson, may be as separate a matter as is the building of a house from its chairs and carpets. And, secondly, they show a complete and admirable knowledge of their subject, and every one of the rectilinear and architectural—let me say "formal"—gardens which they describe so appreciatively and illustrate so exquisitely, is a beautiful and priceless English possession. As to the accepted use of this word, Mr. Robinson is as impotent to suppress it in this connection as was Louis XIV. to make *carrosse* feminine by Royal edict, and Mr. Dillistone has no difficulty in showing that Mr. Robinson himself is forced to employ it. To take instances from my own countryside, how shall I better distinguish the original Italian gardens of Longleat from the wreck to which Capability Brown converted them, or the gem-like little Italian garden still extant at Wilton, or a Dutch garden anywhere, from the gardens of Mr. Robinson's affections, than by this well-understood word "formal"? He is certainly familiar with the Elizabethan conception of the Garden of Eden—a square enclosed by closely clipped hedges and divided by rectilinear paths into a geometrical parterre of elaborate "knot" flower-beds, the round-topped Tree of Knowledge of Good and Evil in the precise centre, the serpent coiled symmetrically about its stem, and a Renaissance fountain discharging water to the four cardinal points from spouts labelled Pison, Gihon, Hiddekel and Euphrates. Is not "formal" more apt here than any other epithet? I imagine that Mr. Robinson would make evasion by denying that such a garden is a garden in any sense or deserving of any name. But this is merely a pious, or possibly an impious, opinion of Mr. Robinson's, and by no means a binding dogma of the catholic gardening world, and it is idle for him to pronounce that unless we believe faithfully with Mr. Robinson we shall without doubt perish horticulturally. The creed of the larger half of the gardening world is wider than his, and will remain so. I observe that he commonly uses that facile subterfuge of writers who cannot or will not reason their subject out, the begging epithet or sentence; for example the statement that "far too many gardens in old time were geometrical in outline" (page 268). This is simply asserting without proof what many of us deny and he has to prove, namely, that a geometrical outline or internal disposition makes a garden a bad garden or no garden. Our Elizabethan forefathers, after all, were neither know-nothings nor necessarily without taste because their taste is not altogether ours in the year 1917. And it gives food for reflection that to their minds the Bible began with a geometrical Garden of Eden, as it assuredly ends with the quite geometrical garden-city of the New Jerusalem, which "lieth foursquare," with the Tree of Life neatly disposed "in the midst of the street of it and on either side of the river." On the whole I am well content to range myself with them, and apparently with the Angels, even rather than with Mr. Robinson, though this again is a question of taste.—GEORGE H. ENGLEHEART, *Little Clarendon, Dinton, Salisbury.*

MAKING POT-POURRI.

THE elaborate details given by Miss Jekyll, page 324, issue August 11, will, I fancy, be too troublesome for most readers, and I should say they would not desire the long waiting process when a much simpler method can be adopted. Last summer I made some pot-pourri, and to-day it is as delightfully fragrant as when first made. I enclose the recipe The quantities given can, of course, be doubled or trebled, but I made a good-sized jarful. Dry half a pound of Rose petals very carefully in the sun. I selected most fragrant kinds, such as La France, Mme. A. Chatenay, General Macarthur, &c. Also dry some other sweet-scented leaves, such as those of Aloysia citriodora. When thoroughly dry, mix with them a handful of common salt to prevent decay, add a quarter of a pound of Orris root, one ounce each of Cloves and mixed spice, a few Tonquin Beans, two pennyworth each of oil of Lavender and essence of Roses, three pennyworth of essence of Bergamot, also a quarter of a pound of well-dried Lavender flowers. To these my chemist gave me some essence of Mignonette. Mix all well together and place in a closed receptacle. By opening for a few minutes on special occasions, the room is filled with the delightful perfume. Silk bags may also be filled with the pot-pourri.—WALTER EASLEA, *Eastwood, Leigh-on-Sea.*

POTATO MIDLOTHIAN EARLY.

THIS variety has yielded a fine crop with me, and the quality is excellent. On July 26 we lifted 6½cwt. from 84 square yards of ground. I do not pretend to be a Potato expert, so I shall be glad to know if your readers think this a good return. The seed came direct from Forfar, N.B. —Arthur R. Goodwin, *Kidderminster*.

[This crop of 6½cwt. from 84 square yards of Potato Midlothian Early is excellent; indeed, for an early Potato it is almost marvellous, and is all the more gratifying because some of the foremost Scotch growers have recently reported badly on this variety and talk of discarding it. It has, in our own experience, given very large crops from Scotch-grown seed in the South of England, and we were glad to see, in the Lothians a short time ago, some very promising crops of it. Will you not give an account of your cultivation, distances of planting, treatment of seed, &c., for the benefit of our readers?—Ed.]

WHITE RUNNER BEANS AND ROSES.

REGARDING the note in The Garden of Aug. 4, page 303, as to the employment of Scarlet Runner Beans as ornamental flowers, it may interest other readers to know how extremely decorative the *white-flowered* Runners are. I have been experimenting with them this year (Sutton's Mammoth and Carter's Jubilee) combined with Roses, both along fences and in large beds. The effect is simply lovely. Those along fences are staked in the ordinary way, but not very high—8 feet or thereabouts. Those in the beds are treated tripod fashion. In addition to the beauty of the butter yellow bud and ivory white blossom, there is, of course, the amazing fecundity of the white-flowered Bean. Considering what a horrid jar one's colour sense receives from *scarlet* Runners in juxtaposition with Roses, I am sure people would be delighted with the white ones.—Boris.

YELLOW TOMATOES.

FOR use in the raw state the best of the yellow Tomatoes excel in flavour the red ones. Of this anyone with a discriminating palate will be soon convinced, yet the yellow varieties are seldom grown in private gardens, and by the market grower never, so that they do not appear in the shops except as an occasional curiosity. There has in the past been some prejudice against them on account of their shy bearing, but now that we have a good selection of varieties, such as, for instance, that fine thing Golden Sunrise, yellow Tomatoes should be given a trial by all who grow Tomatoes in any quantity. Their lack of popularity has, to my mind, been fostered by the absurd action—or rather lack of action—of market growers, few of whom, by any chance, have the pluck and enterprise to give the consumer a lead, but are content to be just led by the nose by him, and if attacked on this score reply by making a positive virtue of supplying "what is asked for," a phrase which appears to embody the antediluvian programme of most of them.—F. Herbert Chapman.

SOME USEFUL GARDEN PEAS

By J. Duncan Pearson.

THOUGH GREAT STRIDES HAVE BEEN MADE IN THE IMPROVEMENT OF CULINARY PEAS OF LATE YEARS, THERE ARE SOME OLD FAVOURITES MENTIONED HEREIN WHICH CONTINUE TO HOLD THEIR OWN.

OF old friends one of the foremost is Sharpe's Triumph. I consider it one of the very best midseason Peas in cultivation. Three feet high, of strong, sturdy growth, it bears an abundant crop of well-filled pods containing large Peas of excellent flavour. I call this an almost ideal 3-feet Pea for the ordinary amateur or cottager. Some of the newer varieties have longer pods and larger Peas, but these aristocrats of the Pea world require high cultivation, or they may prove almost failures; while some of the older varieties will succeed and produce good crops under any decent conditions of soil and cultivation.

JOHNSON'S PERFECT MARROW PEA.

Prince of Wales is another old Pea which, although far surpassed in size of pod, is still a very useful variety for light land, on which it will produce a good yield, whereas many of the newer giants would be failures. Veitch's Perfection is another old favourite which has stood the test of time, and is still worth growing on account of its excellent flavour.

Of the newer varieties I would mention Johnson's Perfect Marrow, a fine second-early, 3½-feet Marrowfat of sturdy growth, bearing a very heavy crop of Peas of the finest flavour. Johnson's Magnificent is another Pea of the same class, producing a heavy crop of deep green, square-ended pods, and the Peas are of excellent flavour.

In late varieties we have Captain Cuttle, which is a dwarf form of the old Ne Plus Ultra, carrying longer pods than that old favourite, while the quality is quite equal—one can hardly give it higher praise! Autocrat is one of the very latest. If sown at the same time as most other late Peas, it will be in flower when the others are in pod. The cooking quality is first-rate. The only thing against it is that the pods are rather short. Gradus was one of the first really early varieties with true Marrow flavour, and still holds its own as a good cropper of excellent quality.

There is no need to grow any round-seeded Pea nowadays, unless it be for autumn or very early spring sowings, for we now have quite a number of first-rate early Marrowfats ranging in height from 1 foot to 3 feet. Of dwarf and semi-dwarf varieties we have Reading Wonder, 12 inches to 15 inches, very early, and of the best table quality. Little Marvel, 1½ feet, bearing a wonderful crop of rather small but tightly packed pods containing Peas of excellent quality, should find a place in every garden. It just follows the earliest. Closely following Little Marvel comes The Sherwood, 1½ feet, a grand Pea which bears a very heavy crop of well-filled, square-ended pods; the flavour is excellent. Excelsior (Sutton), again, just follows the last named. It is 2 feet high and carries a wonderful crop of rather light-coloured pods containing about eight large Peas of good flavour.

Now that we have so many good dwarf and 3-feet Peas, there seems little room for the really tall ones, for it is doubtful whether the tall growers bear more than their dwarfer brethren. It will be noticed that nearly all the tall growers only bear near the top of the vines, while all the best shorter varieties carry pods almost from the ground-level. One of the best of the 6-feet sorts is Alderman, which carries a great crop of real exhibition pods often containing eleven or twelve large Peas of Ne Plus Ultra flavour. In visiting trial grounds where a bewildering number of varieties were being grown, I have often been struck by the good show made by this Pea. It enforces attention among its hosts of associates. Quite Content bears pods of phenomenal length, but, unfortunately, they are seldom really filled; there are nearly always one or two blanks in each.

Although these notes will be too late for the present season, I hope they may be of service to some readers of The Garden in the near future.

How to Treat Late-Planted Celery

THE moisture-loving nature of Celery is fully recognised by the professional grower, who invariably selects a position for the crop as near the water supply as possible; but the ordinary amateur and allotment holder, having little or no choice in the matter, make their trench where the first opportunity offers itself, the great majority of these having to wait until an early crop of another kind has been taken from the ground; and although we have sometimes planted rows as late as the middle of August and got good results, it must be admitted the success or failure of such late plantings is largely dependent upon the treatment the plants receive, it being very rarely, unless extra strong plants are put out, such rows give good results if not more than ordinary care is devoted to them by the grower, and this must by no means be delayed until a few weeks before the first digging is expected to take place, but start from the very commencement of life in the trenches.

According to the calendar we still have two months of real growing weather before us, a period, if full advantage is taken of every opportunity, quite ample to ensure good results from plants put out recently or during the next few days; but no time should be lost.

The distance between plants put out at this date need not be so great as would have been advisable a month or six weeks earlier, 8 inches each way being ample. Continue to give abundance of water until the plants are making plenty of new growth, and keep the soil between them constantly pricked up with a very small hand-fork or pointed stick. Syringe or sprinkle overhead at every opportunity, more particularly during the afternoon of a hot day.

Remove all suckers or side shoots as they appear, and as the leaves gain size, instead of allowing these to sprawl about and shut out all sun and air from the rest, tie each plant loosely together with bast or soft wool.

After the plants have been in the trenches a month, a little extra nourishment may be given the roots either in the form of weak soot water or liquid manure, or, what is perhaps better still, a light sprinkling of one of the well-known artificial manures put up in small tins, to be had from all florists, &c. If a mulch of nearly fresh horse or cow manure can be given, such should have preference where the soil is very light, but on heavy land I prefer the former.

The benefit of mulching is most apparent when followed by a long spell of hot weather. The reader in a position to apply both dry artificial and liquid manure is advised to discard mulching in favour of the judicious use of these. When dealing with these late plantings avoid adding earth for the purpose of blanching on the little and often principle, but keep this away from the plants until growth is nearly completed, which will not be before the end of October; this allows a clear six weeks before digging commences.

Opinions differ as to the value of brown paper or blanching purposes, but few will deny that when this is used the sticks of Celery, in addition to being more perfectly blanched, are usually free from those blemishes which, when grown upon heavy soils, too often disfigure many otherwise perfect specimens. But I warn readers whose gardens are exposed not to rely upon paper alone to carry the plants through a severe winter, but at the approach of sharp frosts envelop each paper-covered stick of Celery in dry earth or coal-ashes.

F. R. C.

Three Grand Lettuces

IT is only in a dry season that we fully appreciate a Lettuce that does not readily "bolt." The three following varieties I have grown for seven or eight years, and they invariably give satisfaction. For the very earliest crops, whether started in heat or sown outdoors, nothing I have ever tried can approach Carter's Holborn Standard. It is hardy, stands long in good condition, and is very crisp and tender, with a pleasant flavour. New York Giant is probably the best summer Lettuce. It grows to an enormous size without losing quality, and is also a slow seeder. Webb's Wonderful is the other variety I can recommend for summer use. It is not unlike New York Giant in general appearance, but is slightly paler and not quite so large. All three varieties blanch perfectly.

HOLBORN STANDARD CABBAGE LETTUCE.

Preston House Gardens, Linlithgow. C. BLAIR.

INTERCROPPING PEAS

FOR various reasons, during these strenuous times, one has to devise ways and means for economising labour and getting the largest possible returns from a given space of ground. I was induced to make two sowings of Peas, or, rather, to grow two sowings in the same row. We make it a practice to sow both our early and second-early varieties under glass and plant them out. After these had attained a height of about 10 inches we sowed the same variety at the same distance of planting in each row, and I am pleased to record very satisfactory results; but to attain this it is necessary that the ground be well prepared, and I know of nothing better for Peas generally than preparing trenches in much the same way as one does for Celery, and planting two lines in a trench. Much depends on the variety grown as to the distance one should allow, but this ought to range from 4 inches to 10 inches from plant to plant, and from 6 inches to 8 inches between the lines. The stronger and taller the variety, the greater the distance that should be allowed. The varieties treated in this way were Edwin Beckett, Duke of Albany and Quite Content. The second sowings are now giving us splendid crops, and the rows are furnished with free, healthy growth. The ground is mulched, and two or three good soakings of liquid manure and clear water have been applied during dry weather. This method means a great saving of labour and sticks as well as an economy in ground space.

Aldenham. EDWIN BECKETT.

The Making of Manure

FROM experiments I have found that vegetable manure is not a full, perfect and complete substitute for stable or farmyard manure; but that it can be made so I fully and firmly believe, if only someone has the patience to complete experiments.

How shall we make it? After trying a variety of ways I may say that the pit method is probably the easiest to manage, and thus the most convenient. A large pit is dug in an out-of-the-way part of the garden, and the rubbish from the garden, such as soft-growing weeds not possessed of seed heads or creeping roots, lawn mowings, and general clearings from the flower and vegetable garden, may be added.

I think it is a good plan to frequently disturb the material, since if this is done "burning" fermentation cannot set in. Some folks, on the other hand, when they are advised to do this, tell us that they do not believe in the practice at all. They say that better manure is formed if the material in the pit is left untouched.

In order to keep the material in as sweet a condition as possible, it is well to add lime to it either when fresh matter is being added or when the material in the pit is being mixed. The right kind of lime to use also appears to be a matter of opinion. I like to add plenty of basic slag, which is cheap here; but I have also found excellent results have been obtained by using quicklime or slaked lime. A friend of mine, however, is of the opinion that lime in its active state is most undesirable, since he says it wastes much of the fertilising value of the manure. He strongly advocates gypsum, which he can get very cheaply from Derbyshire mines, and says he gets splendid results. Yet another friend tells me he mixes plenty of bone-meal with his rubbish before he shoots it into the pit, and again when it is being turned out.

Those who do not make vegetable manure are advised to start without delay, for stable manure is sure to be harder than ever to get this autumn. If a start is made at once, a great deal of valuable manure would be available by the time the winter comes on, and this manure can by all means be liberally used during the trenching of practically all soils. It is alike useful for very heavy or very light soils, for it greatly improves both; it can be used alike for flowers and vegetables, though more can be used for the latter. We cannot do without humic manure if we are to produce the best from our land, and as animal manure will be practically impossible to get, it needs little apology for urging that vegetable manure can and should be used instead.

Weetwood, Ecclesall, Sheffield. E. T. ELLIS.

THE ALLOTMENT

By A. Cecil Bartlett.

ADVANTAGE SHOULD BE TAKEN OF SHOWERY WEATHER TO PLANT OUT THE REMAINDER OF THE BRASSICAS FOR WINTER AND SPRING USE.

THE main stock of winter greens should be planted, and the careful worker will now fill any blanks that may occur. Although due consideration has been paid to the value of Brussels Sprouts, Kales and Broccoli, it is Savoys which may be looked upon as the most profitable of the winter greens, and the hardy sprouting Kales will be good seconds; so that it would be good practice to still plant Savoys in any available place, but without encroaching on the portion allotted for Spring Cabbage. These late-planted Savoys should be set out at 1 foot apart each way, and they will be found to yield firm, compact hearts, not so large as from the earlier planting, but still sufficiently big to repay the trouble of planting, and will also come in later when green vegetables are scarcer.

In view of the recent rains no watering will be needed. No alarm need be felt if the plants flag for a time after they have been transplanted, for they will soon recover. Many large growers of vegetables deliberately wilt their seedlings before planting into permanent quarters by lifting and laying them out in airy sheds during the day previous, and then plant them in a slightly limp state.

A second sowing of the selected Spring Cabbage should now be made, and it is often advantageous to follow it with a third a week or ten days later. By this means one is sure that all the plants will not "bolt," and as those of the first sowing often become unduly large before their permanent place is available, the later plants are valuable. When the seed sowing is done at several different times, quite small quantities should be sown.

Occasionally among the Potatoes one sees odd plants with brown and slightly curled foliage which is harsh and brittle when handled, and the growth is stunted. The uninitiated not unnaturally conclude that this is a visitation of the Potato blight, but fortunately this is a mistake. The condition I have described is nearly always due to a fungus which attacks the eye of the set and spreads to the lower portions of the stalks, arresting progress. The fungus is already in the seed Potatoes before they are planted, but, being minute, cannot be easily detected. The "set" rarely decays, and the new tubers are always few in number. Often this condition is accompanied by brownish spots on the skins of the few new Potatoes, which give them a scabby appearance. This, fortunately, is only skin deep, and the tubers may be safely eaten. This scabbiness is generally due to some mechanical influence of the soil, and so may, and often does, appear on tubers grown in freshly broken ground which time has not permitted to be properly worked before the sets were planted. So that if Potatoes should be grown on the same ground next year, by which time more labour may be given, there is small likelihood of a return of the trouble. Excess of fresh lime added to the soil will at times cause scabby Potato skins. There is no cure at present for the fungus which causes the unsatisfactory growth, and it is generally considered to be often due to the use of seed which has been allowed to remain in the ground until the tubers have ripened, though at times it is the penalty of continued use of home-grown or local seed.

The unprecedented demand for seed Potatoes this year compelled many allotment holders to use whatever seed that could be obtained, but this state is not likely to recur, so that in future we shall be able to select sets from sound and reliable sources. It need scarcely be insisted that although fit for eating, these tubers should never be replanted. To safeguard himself from disappointment in the future, an effort should be made to sprout all sets before the planting season, and then any that fail to grow satisfactorily may be discarded.

All early and second-early Potatoes should now be dug, for if left in the ground after the foliage has ripened there is a great danger of the young tubers growing out under the influence of rains. If there are more new Potatoes than can be used in a week, the surplus should be stored in a dry place and covered to exclude the light.

The ground cleared by lifting these Potatoes may well be used for planting the first batch of Spring Cabbage and for sowing seeds of Onions, Carrots and Parsley. No manure will be needed, as the aim of the cultiva[illegible] tables as sturdy as possible, so that the[illegible] withstand the coming winter. The Onions should be of the Rocca and Tripoli types, while the most suitable Carrots for early autumn sowing are those which have stump roots; the long-rooted sorts are useless for this purpose.

Many allotment holders, partly in a natural wish to have tubers of their own growing, have commenced digging their maincrop Potatoes. This is very bad economy. If allowed to remain in the ground the tubers would greatly increase in size and so give an enhanced yield. At the present time Potatoes may be purchased cheaply—no one need give more than 6d. for 7lb.—but the low prices will scarcely be maintained throughout the winter, so that those who have grown only maincrop Potatoes should buy for present consumption and allow their own to fully mature before digging any of them. The early sorts and many of the second-earlies are, of course, fully grown, and should be dug now.

CABBAGES AND ONIONS FOR SPRING.

1, Raised beds for seeds; 2, Seed drills on the level: 3, Shows a "blind" plant; 4, "Club-root"; 5, A good plant; 6, Roots of Onion broken; 7, Roots retained; 8, Onions properly planted.

Cabbages and Onions for Spring

BOTH crops are valuable because they are fit for use early in the year, when vegetables, especially green ones, are scarce. Although rather firm soil is best for Cabbages and Onions, it must not be poor. The Onion is very deep rooting, and the Cabbage soon permeates the surface of the soil with its roots, which then penetrate deeper, exhausting in a very short time the ordinary nutriment contained in the soil. It is quite useless to grow the plants in a naturally poor soil unless the means are available for suitably enriching it in due course, which should be in the autumn and again in the spring. Then there is the nature of the soil to be considered. If it is light and porous, later planting in the autumn might be successful, whereas it would probably be a failure in cold, clayey soils.

Last autumn an amateur cultivator raised some Onion plants late in the month of August in a clayey medium. Much rain fell, followed by severe frosts. Nearly all the plants were destroyed, and those that survived were too stunted to grow to a profitable size; in fact, the spring-sown ones overtook and passed them. This is an extreme case.

In both North and South it is advisable to make two sowings—in the Northern Counties about July 20, and again the second week in August; in the Southern Counties the first week in August, and again about August 20. Our seedsmen now supply us with splendid strains of both kinds of vegetables, a fact that counts for much as regards premature "bolting" or seeding of the resultant plants.

The three principal points are good seed, to sow it at the right time, and treat both seedlings and soil properly. Soil in which Potatoes have been grown is capital for the raising of Cabbages and Onions. In a very short time at this season the ground can be well prepared. Avoid sowing the seeds thickly. Many cultivators do so and then use only a few of the resultant seedlings, and all those not used have materially helped to spoil them.

Transplanting.—Transplant both the Cabbages and the Onions in their permanent quarters before the end of September. A fortnight of the latter month, when the weather is real September weather, does much towards the establishment

of the plants before severe weather comes. When lifting preserve the roots as much as possible; discard those specimens that are "blind" or "club-rooted." In the latter case the ground should be limed in the autumn and salt applied in the spring. Three pecks of lime and a peck of salt per rod, respectively, will be suitable. Keep the soil at all times free from weeds and the surface soil loose. Allow ample space for the plants to develop normally. GEORGE GARNER.

Notes from a Queenstown Garden

A BRIEF ACCOUNT OF THE COLLECTION OF BEAUTIFUL FLOWERING TREES AND SHRUBS, MANY OF WHICH ARE NOW FLOWERING IN THE INTERESTING GARDENS AT FOTA ISLAND, COUNTY CORK.

AFTER the unusually severe and long winter of 1916–17 it is gratifying to see the remarkable manner in which most of the tree and shrub life is flowering. Plants of Cordyline australis, of which a great number have been planted in past years and now reached goodly dimensions, have been a glorious sight with their immense trusses of bloom, filling the air all around them with their fragrance and providing a happy hunting-ground for countless numbers of bees.

Olearia macrodonta also, which usually flowers with remarkable freedom at Fota, has excelled itself this season, and here again the wheels of Time have developed those planted by Lord Barrymore into grand natural specimens, not only to be seen in the pleasure grounds proper, but also naturalised, as it were, in the coppices and belts of trees bordering the park and meadows, which they liven up with sheets of white when in flower in the same way as does Abutilon vitifolium album. Another interesting Olearia, with honey-like fragrance, which flowered freely and proved itself quite hardy, was O. virgata, a slender-growing variety with very fine foliage; as did also O. Solandri, O. stellulata and O. nummulariæfolia, which, with a few other species and excepting O. argophylla, passed through the winter unharmed.

Most of the Pittosporums wintered without protection and suffered no injury, excepting P. crassifolium, which was killed. The Leptospermums also passed through without injury and have been, literally speaking, smothered with flowers. Azaras integrifolia, microphylla and serrata each flowered abundantly, and the former, of which there are large specimens, are bearing their small fruits freely, and possess that delicious perfume not found in the others. Embothrium coccineum, now fruiting freely, was a blaze of scarlet, and especially the large clump, which has extended, and continues to extend, its proportions year by year with its suckers, which ultimately reach the flowering stage.

Carpenteria californica, which suffered slightly, but now not noticed, is bearing its large Anemone-like flowers freely; as also is a fine bush of Indigofera Gerardiana.

Carmichaelia australis, Ozothamnus rosmarinifolius, Grevillea rosmarinifolia and G. sulphurea, large trees of Benthamia fragifera (flowering also beside the roads), Crinodendron Hookeriana, Desfontainea spinosa, Diospyros Kaki, Drimys Winteri, Eugenia apiculata (its large branches, covered with reddish brown bark, will shortly be a mass of white), large bushes of Fuchsia Riccartonii, Habrothamnus, Hydrangeas, Mitraria coccinea, Phormiums, Plagianthus Lyallii, Rhyncospermum, Salvia Grahamii, Schizophragma hydrangeoides, Teucrium fruticans and Veronicas are a few of the subjects now in flower, and which came through the winter practically uninjured.

Fota, Queenstown, County Cork. E. B.

OLEARIA MACRODONTA AT FOTA, QUEENSTOWN.

The Effect of Heavy Rain

TO go round the garden after such a deluge as we had of late for nearly five successive days and nights and to observe in what way the long-continued and, at times, extremely heavy downpour has affected various plants is an interesting, though rather a melancholy, promenade. Dahlias, Snapdragons and Pentstemons are almost unhurt, also Gladioli, except that some tall ones of weak habit are broken down where they were not fully supported. Rudbeckia Golden Glow has stood well; Mulleins are even rejoicing; Phloxes have had the bloom knocked off, but more will soon come. Nasturtiums are unhurt; Pot Marigold has stood fairly well. Ageratum is quite intact and Mignonette stands up bravely, all but a few sappy tufts that were absolutely flattened by the pounding force of the torrent. Gaillardias have stood well and Carnations not badly. Globe Thistles are unhurt, except that where not properly supported with stiff spray they have been thrown about. The great White Balsam stands up bravely. African and French Marigolds have hardly suffered at all, though the dwarf French varieties of the gingerbread kinds have lost colour from the long soaking of their water-logged heads. Helenium pumilum and Monarda are both unhurt. The existing blooms of Crinums are spoilt, but there are plenty more to come. The forwardest Yuccas have the flowers browned and rotting, though the later stand well and are practically unhurt. Geraniums are a sad sight, every flower-head a black sodden mass bearing a crop of grey fungoid mould. Cannas have lost all existing flowers, but more will follow. Scabiosa caucasica, lately so beautiful, is done for for the present. Nearly all Campanulas are badly draggled; worst of all is C. lactiflora, a truly miserable sight. The one of the family that has stood best is Platycodon Mariesii, except that the forwardest blooms are rain-spotted and show decay at the edges. Everlasting Peas, in spite of the fine substance of the flowers, are a mass of rotting pulp. Roses, of course, have suffered badly; fat, unopened buds are held in the tight grip of decaying outer petals. Sweet Williams are perhaps worst of all; a thoroughly wet through Sweet William is a truly deplorable object!

But except that the bloom of the late July flowers has been abruptly brought to an end, whereas had the weather remained fine it would have endured yet a while, and but for the breaking down of a few plants that the lack of labour had left without their usual support, there is no great damage done; nothing that a few fine days will not easily repair. On the whole the summer has been one of the most favourable to vegetation, good rains coming at suitable intervals with sunny days between. If the needs of the time had not constrained us to give up the best flower borders, their usual glory would have been greatly enhanced. G. JEKYLL.

The Rose Season

BY THE REV. DAVID R. WILLIAMSON.

THE season of the Queen of Flowers in Southern Scotland has been, for the most part, inspired and dominated by benignant atmospheric influences, and has consequently been much finer in this region than in many previous years. In Logan Gardens, which are picturesquely situated in the northern division of this peninsular parish, such modern Roses as Mme. Edouard Herriot, Rayon d'Or, the Lyon Rose and Lady Hillingdon have been simply magnificent; as under the superintendence of Mr. Kenneth McDouall of Logan they invariably are at the flower-effusive period of the year. In other Wigtownshire gardens, such as those of Lochinch, Lochnaw, Corsewall and Dunraggit, they have flowered very effectively this season and developed with unusual facility.

Among the many varieties of recent origination that make glorious the fragrant borders of my own garden (where they have the harmonising companionship of Sweet Peas, Antirrhinums, Pansies and Violas), some of the most conspicuous, by reason of their brilliant colours, are the creations

of M. Pernet-Ducher of Lyons. Perhaps the more supremely decorative of these have been Mlle. Cariste Martel (which, like that grand Newtownards Hybrid Tea Margaret Dickson Hamill, recently gained the gold medal at the great Bagatelle trials in France); Raymond, a very beautiful acquisition; Mrs. Bullen, Mme. Colette Martinet, and some of their luminous predecessors, especially Rayon d'Or, a veritable queen among modern Roses, and her inestimable derivative Constance, Mme. Edouard Herriot, Willowmere (named after the residence of the American Admiral) and the wondrously coloured Lyon Rose.

Of Roses of British origin or introduction, some of the most impressive are Mr. Arthur Paul's famous Scarlet Climber (which has gained the highest possible distinctions at the great horticultural exhibitions and which has outstanding attributes of radiance, fine form and floral profuseness), and the exquisitely coloured orange yellow Aladdin, two varieties which will sustain the great reputation of the Waltham Cross rosarian. Mr. Hugh Dickson's new Roses are, in my estimation, by far the most notable productions of his that have hitherto appeared. Especially attractive in their brilliant, yet exquisitely contrasted hues are Nellie Parker, Miss Mona Hunting (deep chamois yellow, opening to delicate fawn), Prince Charming (worthy of that poetic name), and the lovely, large-petalled, primrose-coloured Ulster Gem.

Among Mr. Samuel McGredy's most recent creations are the lustrous and fragrant Crimson Emblem; Modesty, a variety of rare refinement; and Flame of Fire, an introduction of the rarest brilliancy of aspect, whose value for garden decoration can hardly be over-estimated. His golden-hued Christine I have not yet acquired, but I anticipate that by this time next year it will be one of the most radiant of my floral possessions. Of late years the consummate Newtownards firm have produced no Roses more impressive in their beauty than the pendulous George Dickson (probably the finest dark Rose in existence), Margaret Dickson Hamill, Miss Stewart Clark (deep chrome yellow), and the splendidly floriferous—with glorious Maréchal Niel fragrance—Mrs. Wemyss Quinn, which Messrs. Dobbie of Edinburgh regard as one of the finest varieties of its colour at present in cultivation.

Augustus Hartman, raised by Messrs. Cant of Colchester, is a somewhat distinctive introduction, of superbly effective nasturtium red complexion. I have not seen this season any new varieties of grander effect than Mr. Walter Easlea's Lady Bowater, the result of a cross between two of my favourite Roses, Snow Queen and Pharisaër. The most effective creation of Mr. Elisha J. Hicks is Mrs. George Norwood, whose fine formation and rich fragrance render it uniquely attractive. It is a special favourite of Queen Alexandra. Princess Mary, which was beautifully illustrated last year in THE GARDEN, has a glowing crimson colour.

THE NANKEEN LILY

A QUITE UNPRACTICAL DISSERTATION.

LILIUM TESTACEUM (syn. Isabellina, excelsum) is one of the most, if not the most beautiful of all the Lilies of July. It is good in every way, in stem, in foliage, in temper, but most of all in the refinement of its coronet of exquisite flowers. When first the blossom expands and its rays thrown back into elegant curves, it looks in colour, sheen and texture as if it had been graven in old ivory and highly polished. In a day or two the most delicate flesh tint will suffuse the pigment. The orange anthers then glow into vermilion, the flushed ivory deepens to a subdued yellow-buff, and the lovely flower, slowly losing its gloss, seems to pass out of life with no less grace and loveliness than it possessed at the beginning. And all the while it has been pouring forth the most entrancing fragrance that ever Lily breathed.

The origin of the Nankeen Lily still appears to be very doubtful. Some authorities contend that it is a hybrid between L. candidum and L. chalcedonicum. If so, it is an offspring worthy of such parents. The latter it certainly resembles in many ways. In stature and the poise of its flowers it reminds one of the old Martagon of Greece, but it is taller and more stately. The foliage, again, while more closely allied to that of L. candidum, has the curious spiral twist of the other. The perianths also resemble those of our old friend in red sealing-wax, but they are larger, flatter and nobler. There, nevertheless, upon the ivory is the peculiar silken gloss of L. chalcedonicum; there also the same texture, the same indication of spots where there are no spots, the same hang of the anthers. But in perfume the Nankin Lily follows neither of its alleged parents, nor is its scent a blend from both. It were hardly just to say that the fragrance it distils is sweeter than that of the Madonna Lily. One might as well attempt to compare the cold purity of L. candidum with the more spiritual charm of the Nankeen lady. The fragrance of those ivory chambers is a distillation of their own, a precious, mysterious, heaven-sent gift that [illegible] craft of the hybridist to create or control.

I am told that my admiration for this Lily will be seriously impaired when L. regale brings her rival graces into the garden. We shall see. Another summer must pass before my family of baby Royals, now only toddling, but prosperous, attain the full stature of maturity. Meanwhile I am content to wait. If the chaste and lovely L. japonicum (Krameri), so delicately fascinating in rosy silk, so wayward that I never hope to see her again, was not enough to shake my allegiance to my Nankeen charmer, I am ready to risk the sight of this Royal beauty and all the direful consequences which may ensue. A. T. JOHNSON.

DRACÆNA GARDEN ON FOTA ISLAND.

Plants on a Small Moraine Garden.—V

BY T. ASHTON LOFTHOUSE.

Saxifrages.—The moraine conditions are ideal for the Kabschias and other dwarf members of this extensive family, including so many "gems" from the higher mountain regions, most of which flourish and are a constant source of delight, some of them throwing up their dainty flowers as early as January and continuing till well through June. The various species are all planted in the calcareous part, and from time to time are mulched with limestone, crushed mortar or plaster and sand, and well watered if dry weather occurs immediately after the flowering period. The weather being uncertain when many of them come into flower, especially the earlier ones, it extends the flowering period and prevents the flowers being soiled if they have a sheet of glass placed above them. This is probably more needed on the outskirts of a manufacturing town like Middlesbrough than in more favourable country conditions, my garden being only a little over a mile from some of the large ironworks which prevail in this district. S. Burseriana magna.—A delightful free-flowering species and quite the best of this section, a plant I have under 4 inches in diameter having over 100 flowers fully developed about the end of March, five weeks later than last year. The flowers are large and on shorter stems than Burseriana or Burseriana Gloria, of both of which I have representatives. The last two flowered earlier than magna. S. cæsia.—A plant of this tiny-rosetted species, planted in May, 1915, flowered pretty well last summer, but for some reason it has since practically died away (possibly through disturbing by breaking a small piece off shortly after flowering), this being my only Saxifrage failure on the moraine up to the present. S. Faldonside.—Quite the best of the yellow-flowering forms and perfectly at home, a very tiny piece planted in 1914 having grown into quite a nice plant now. The spiny rosettes are

lighter (bluish yellow) than any of the other yellow forms and the flowers larger—pale citron yellow on short, stiff stems. Unfortunately the frost caught the flower-buds this spring and prevented them from developing. This was the only species affected in that way. S. Grisebachii.—A plant of a single rosette obtained in the early summer of 1915 threw up its interesting red-coloured flower-spike, commencing early in December and gradually growing up and up until it broke into flower in the spring. The position and conditions have suited it so well that it now has increased to five rosettes, from each of which the flower-spikes have been rising since December and were fully developed at the end of April.

[In addition to the above I have (excluding the commoner species), among the Kabschias, S. Petraschii, a later-flowering species with snow white flowers of good size; S. Paulinæ, a yellow-flowered form second only to S. Faldonside; S. Salomonii, which for some reason has shown very little inclination to bloom, there being no flowers on two or

WAHLENBERGIA PUMILIO FLOWERING FREELY IN A MORAINE.

three small clumps last spring and had only a single flower on this year. S. lilacina, a rare Himalayan species with very tiny green rosettes and pinkish lilac flowers, has increased very perceptibly and flowered in its first season. Unfortunately, vermin of some sort ate and nipped the flowers off before there was much chance of appreciating them, but the colour, which is an exceptional one for a Saxifrage, did not appeal to me as a very pleasing one. Since writing this note this season's flowers have developed, it having between fifty and sixty good-sized blooms, and I must confess that my first judgment hardly does it justice, as at its best (which it was not last year) it is a very beautiful plant. Of other forms, S. Boryi has small green rosettes with silvery edges, and flower-spikes throwing out three or four good-sized white flowers at the end, a feature of them being that they last in good condition for a considerable time. S. cochlearis and S. cochlearis minor, with their pretty rosettes, grow quite well, but have failed to flower with me until this year, when there is quite a good show of bloom. S. Stribnryi is a species of somewhat similar type to S. Grisebachii, with much smaller rosettes, having reddish flower bracts which run up in a similar way and come into flower at a somewhat later period; a single rosette inserted in 1915 has now increased to four rosettes, which are going over this year without flowering. The following were only added last year: S. Aizoon baldensis, with beautiful tiny silver-edged rosettes; S. Boydii alba; S. coriophylla, with small rosettes of the marginata type; and S. scardica. I have also many of the better of the Aizoon varieties, which make a good show at the top end of the moraine, especially when in flower; and a clump or two of S. oppositifolia, which flower exceedingly well in these conditions, but all the last-mentioned forms do quite as well in the rock garden if they are well "gritted" round and freer-growing things are prevented from overgrowing them. The Saxifrages have practically all flowered this year, much more freely than has been the case previously, the severe winter having evidently been very suitable to them.]

Veronica canescens grows too freely, if anything, running into and over adjoining plants, but it is not difficult to pull back. The small stemless blue flowers make their appearance about the end of July with me and continue for about a month, but the effect of them is often spoilt by rainy weather which we usually have about this period. In its early stages it is as well to watch it for slugs, it being another plant for which they have a special liking.

Wahlenbergia (Edraianthus) Pumilio an exceedingly pretty dwarf plant with violet blue bells, does well and has not needed to be protected in the winter; it is the best of an interesting family. Unfortunately, the flowering period is a very short one, especially if dry weather prevails at the time.

[W. dalmatica, W. tenuifolius, and W. Kitaibelii.—These all seem to have somewhat similar grassy foliage and good-sized stemless blue bells which are quite showy, but they are somewhat inclined to flower themselves to death, and it is just as well to prevent them from seeding if it is wished to keep them. W. serpyllifolia major is more of a creeping species with Thyme-like foliage and fine bells, freely produced as a rule, and a plant well worth having. W. vincæflora is a delightful species of which to have a plant or two placed on the outside of the moraine, its beautiful blue bell-like flowers on longish stems (quite different to the species mentioned before) being freely produced from the middle of July until well into the autumn.]

[**Gentiana verna.**—This native has been one of my most successful plants; it is a treasure indeed with its sapphire blue flowers, which, owing to their sensible habit of closing up in wet and sunless weather and overnight, last for quite a considerable period. I have it in a fairly dry part, the best patch, covering an area of about 8 inches by 4 inches, having over 70 flowers last spring; this has flowered freely every season since it was planted. It usually has a sheet of glass placed over it in the winter season (as recommended by Mr. Malby in THE GARDEN some time ago), and is mulched with a limy compost immediately after flowering and again at a later period. It is also better for watering well if dry weather occurs soon after flowering, and not to allow the flowers to run to seed. Other plants flower well not protected, but do not seem to produce flowers so freely. A plant produced an odd flower which opened out and was perfect on last Christmas Day. I noticed recently in a contemporary that a correspondent stated that it usually flowered freely with him twice in the season in a damp and sunny situation. As this seems unusual, it would be interesting to know if any special treatment is required; of course, the locality may have something to do with it. G. acaulis.—A plant of this always flowers well, and as it is not by any means a ramper, it is quite a desirable plant to have, especially when, as with me, it does not flower freely in any other part of the garden.]

THE WAHLENBERGIAS

WELL known also as Edraianthus, the European members of this genus consist of a few species of choice and dwarf rock plants. There are about half a dozen kinds, all natives of the Eastern Alps, where they have their homes in the rocky crevices that so many of these plants delight in. The most important essential to their successful cultivation is perfect drainage, and this may be obtained by growing them either in the joints of a wall or in a pocket in the rock garden in a compost consisting for the most part of granite chips, broken limestone, sandstone, or brick rubbish.

To establish these plants in the crevices of a wall or between stones in the rock garden, it is advisable to use small seedlings. If these are planted carefully, so arranging the roots as far in as possible and packing the compost firmly round them, finishing up by placing a piece of stone on each side of the plant, firmly wedged in to hold it in position, they soon take root and form handsome tufts.

Most of the different kinds produce seeds freely, and these may be sown as soon as ripe, or kept till the spring. In the former case a season may be gained, for good-sized seedlings are formed which flower the following year. Seeds should be sown in very gritty soil, potting off the seedlings singly as soon as they are large enough to handle.

In favourable situations some species, like Wahlenbergia dalmatica, reproduce themselves

freely, seedlings coming up around the old plants. This is also the case with W. Pumilio, here illustrated; but slugs are very fond of these young plants, and must be kept in check in order to allow the plants to develop. The three best kinds are:

Wahlenbergia dalmatica.—One of the most robust growing species, which forms a rosette of long, grassy leaves, producing numerous prostrate stems, each terminating in a cluster of violet blue flowers. These are produced in May and June. This Dalmatian kind is one of the easiest to grow, but tends to flower itself to death.

COTTAGE TULIP CORONATION SCARLET, SHOWING THE CHARACTERISTIC BASE OF THE FLOWER.

(*From the Report of the Tulip Nomenclature Committee.*)

W. Pumilio is a beautiful little plant, forming a compact cushion of glaucous foliage, thickly studded in the early summer with pale purple flowers. Planted among some blocks of tufa, many seedlings are growing on the tufa itself without any soil, the seedlings having obtained a foothold in the porous stone. Unlike the last, W. Pumilio increases in size yearly, and often makes tufts 9 inches or more in diameter. It is a native of Dalmatia.

W. serpyllifolia is also of neat, compact habit, but somewhat more trailing than the last. It has dark green foliage and deep purple flowers. With larger flowers than the type, W. s. var. major is a handsome plant which is more partial to moraine culture. In such gritty compost, with moisture within reach of the roots, it makes spreading tufts that are very beautiful when in flower.

W. I.

Report of the Tulip Nomenclature Committee, 1914-15*

By C. W. NEEDHAM.

THIS is an attempt to make order out of chaos. For garden convenience Tulips are grouped in families and sections, and are classified in a manner that will be found convenient. It records faithfully and with infinite care characteristics and distinguishing features, so that each variety may be readily recognised. In settling the nomenclature of the flowers, it remains for the Council of the Royal Horticultural Society to insist on the right naming of blooms in accordance therewith. Not merely a book of reference for all enquirers, comprehensively describing something like 1,600 flowers, it has other features that make it a treasure to all lovers of the flower.

It is not a handbook for the enquirer to turn to in order to find the best varieties of Darwins or the best of the Cottage Tulips—the best yellow and the best white. It does not attempt to place varieties in order of merit—to distribute praise or blame—to sum up and judge.

The Report has a foreword by Mr. E. A. Bowles, the chairman of its committee, explaining how the need for a scheme of classification arose and the desirability of dealing with the synonyms of Tulips. During the last twenty years the taste for Tulips spread rapidly; corners of old gardens were searched for long-neglected strains of Tulips, probably discarded by an old race of seedling raisers. Whatever the merit of these rediscovered Tulips might be, they at least showed vigour by surviving. Names were given haphazard and according to fancy—as we learn had been the case in earlier years with the florist's Tulip—confusion arose, and hence action by the Council of the Royal Horticultural Society was indicated in the interests of law and order. Then follows a short article sketching the introduction of the flower to Europe, its description and properties, by Mr. A. D. Hall, president of the National Tulip Society. It is authoritative and illuminating, and we should have liked more of it.

CLASSIFICATION OF THE TULIPS.

I. Early flowering.
- A. Duc Van Thol Tulips.
- B. Singles.
- C. Doubles.

Typical specimens are named [illegible] descriptions; selected varieties in a sequence which is merely suggestive and not an order of merit follow. Certain of them are commended for pots, others for bedding such as experience teaches.

II. May flowering.
- A. Cottage varieties.
- B. Breeders.
  - (1) Dutch.
  - (2) English.
  - (3) Darwins.
- C. Broken Tulips.
  - (1) Dutch.
  - (2) English.
  - (3) Rembrandts or broken Darwins.
  - (4) Broken Cottage.
- D. Parrots.

III. Species.

Then comes a description of the flowers, the blooming-time, its duration, and the height of the plant.

In the group of Dutch florists' Tulips 300 or more varieties are described. These are of great interest, and represent modern flowers—varieties in commerce. No attempt is made to describe "antiques." For descriptions of these old-time favourites one must turn to some of the works described in the excellent bibliography, which by a happy inspiration is attached to the Report, the painstaking effort of the Rev. J. Jacob, evidently a task he has accomplished *con amore*.

In the case of the English florists' Tulips a modest number of each class is described, such as may be readily procured from the nurseryman—those within the reach of all. This old favourite, which has been evolved by British seedling raisers from 1740 until to-day—new seedlings were exhibited at the Royal Horticultural Society's meeting in May—has been the especial care of the faithful few who have carried on the cult and kept the glorious flower alive, and not allowed it to have the melancholy fate of the Ranunculus, now utterly extinct; the Pink—she with the purple lace and the "moon face"; and other almost forgotten florists' flowers. Faithful to the canons laid down by our fathers, they have at least the satisfaction of seeing the renascence of the Tulip. Closer acquaintance with the flower will doubtless lead to the esoteric cult of one of the finest of florists' flowers, the hobby that has inspired poets and moved satirists.

An attempt has been made to give the semblance of order to the Darwin Tulips. In the case of this numerous family of supposed Flemish origin, where confusion of names most existed, types have been selected to which the other blooms are correlated. The family has been divided into nineteen colour sections, "a" to "s." Thus, for instance, "a," flower vermilion-scarlet, the type is Isis; and the varieties falling under this head are arranged in order of shades, as near as may be, forming a colour sequence grading off towards the adjacent sections. There is here no order of merit of individual blooms, but order of shades, a harmonious grouping.

References are made to the excellent plates showing the characteristic bases of the flowers, also to the plates showing the outlines of the flowers, whether cup-shaped with broad petals or with narrow pointed petals, with elongated broader petals, or with reflex petals ragged in outline.

The work involved has been great, and credit is due to Mr. Titchmarsh and the students who assisted him. The Report is of live interest, descriptive and orderly, and in no way censorious.

The best varieties are matters of taste. Taste can only be acquired by experience of the growth and properties of the flowers by those who love the Tulip and know best its possibilities. Though one bloom surpasses another on the exhibition table, all have their places in the garden. The position of the bed must be considered—its relation to surrounding foliage and shrubbery. The intention must be studied, whether it be for bold decorative effect or for a bed of choice and rare specimens; whether the eye is to be arrested boldly by riotous colour and vigour of foliage; whether one's fancy is to be wooed with soft subdued shades of melting tenderness, peaceful and restful; whether one is to be mystified by a bewildering mosaic of colour; or whether one's attention is to be attracted and mind enthralled by the purity of colour, the delicacy of tint and the grace of form.

"Not one of Flora's brilliant race
A form more perfect can display;
Art could not feign more simple grace
Nor Nature take a line away."
—Montgomery.

* "Report of the Tulip Nomenclature Committee, 1914—1915." Published by the Royal Horticultural Society, Vincent Square, Westminster; price 2s. 6d.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Tripoli Onions.—Sow seed of White Leviathan, Lemon Rocca and White Emperor, where variety is required, to produce bulbs for spring and early summer use. By the aid of one or more of this type a regular succession can be obtained all the year round. The ground following Peas or early Potatoes should be deeply dug and made fine on the surface; draw shallow drills 14 inches apart where the plants are to be allowed to remain, simply thinning them out when too thick. If the whole of the plants are to be transplanted in February, the seed can be sown in drills 9 inches apart on a south border.

Cardoons.—Where an early supply is required in, say, ten weeks, preparation should be made for blanching the stems. Tie the leaves together at the top and wind a piece of brown paper, 6 inches wide, around the stems, commencing at the base and making this secure. Over this place a hay-band to the depth of the paper, banking this up at the base with soil to increase the exclusion of light, and make each plant secure by the aid of a stake.

Asparagus.—As the tops of young plants get heavy, some means should be adopted to secure them from damage by wind in the autumn. Nothing answers better than stout Pea stakes thrust into the soil among the plants, especially on the south-west side. Keep the plants free from weeds. Any weakly plants can be strengthened by the aid of weak liquid manure.

Cabbage.—Make an early plantation of such small-growing sorts as Harbinger and Ellam's in rows a foot apart, allowing the same distance between the plants. These will provide small, succulent heads quite early in April. Sometimes slugs are troublesome to newly put out plants, and the most effective method of checking these pests is to cover the soil for 6 inches around the plants with finely sifted coal-ashes, upon which the slugs find it difficult to travel. Sow seed of larger sorts thinly in drills for late use. This is an important sowing, and advantage should be taken of the first fine day for the work.

Spinach.—Do not fail to sow thinly more seed of the Prickly variety in drills 14 inches apart for spring use. Ground from which a Potato crop was cleared will be suitable without any further preparation.

Turnips.—For winter use, seed of Prizetaker, Chirk Castle and Orange Jelly should be sown thinly in shallow drills 14 inches apart on a deeply dug plot, so that it is well drained. Thin early, thus encouraging a sturdy growth, which will ensure the plants withstanding wintry weather much better than where they are allowed to grow weakly by overcrowding.

Coleworts are very useful, filling in a gap in the autumn when other crops are cleared, such as Potatoes, Cauliflowers, Lettuce, or Broad Beans. The plants can be put out a foot apart.

Tomatoes in the open should have all side shoots removed and their points pinched out when the plants have attained a sufficient height to ensure a full crop of fruit. If there is a doubt about the fruit having sufficient sun to ripen, cut away portions of the leaves. In giving stimulants to the plants to swell up the fruit, be careful not to overdo this, especially if the weather is showery, cold and sunless, as such conditions are liable to accelerate the spread of disease before the fruit commences to colour.

The Hardy Fruit Garden.

Figs on Walls.—Where a full crop is formed, the point of the most vigorous shoots should be pinched to assist the swelling of the fruit. Any very gross growing shoots or those weakly owing to overcrowding should be removed instead of waiting until the leaves have fallen, which is all too customary. This thinning will enable the reserve wood to mature more freely, thus giving an increased crop next season.

Autumn-Fruiting Raspberries should have any surplus current season's shoots cut away to assist in ripening the fruit. This allows more sunlight to penetrate the centre of the clumps as well as aids in maturing the current season's shoots, and produces much better results.

The Flower Garden.

The Rose Garden.—Now is the time to take note of any alteration required in the arrangement of the beds, replacing inferior varieties, and generally overhauling the various forms of plants. As time goes on the Wichuraiana type of rambling varieties finds more favour. The habit of growth is all that could be desired for pillar, pergola, or fence; the freedom of flower, too, is dense, while the colour covers a wide sphere. What is still required is a good yellow variety flowering at the same time as the type; in fact, a pure yellow climber at any season would be welcome.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

Plants Under Glass.

Malmaisons.—Early rooted layers will now be quite ready to be transferred to pots of 4 inches or 4½ inches diameter. If they are to be repotted in October, these, in experienced hands, will need no drainage. Many make the fatal mistake of burying a part of the stem, which is very susceptible to injury from the moisture in the soil. If the part

STRAWBERRY LEADER, PROLIFIC AND OF WONDERFUL SIZE.

connecting the layer with the old plants is cut close to the former, and the cut part no more than touches the soil, it will be a guide to the proper depth to plant. Firm the compost in every part and keep the plants meanwhile in a cold frame, shading from the sun and being careful in the administration of water all along, and especially for a week or two after potting. Aphis can be kept off by dusting with tobacco powder.

The Kitchen Garden.

Celery.—The old-fashioned custom of earthing up Celery bit by bit is now to a large extent exploded, but it helps the crop considerably to apply an inch or 2 inches of soil from the ridges to the surfaces of the trenches. If growing freely there will be no need to add manure; if, on the contrary, growth is slow, soot or some other simple manure scattered among the plants before throwing in the soil will be very beneficial. In Scotland it is seldom that water is required, once the plants are started into growth, and after this date it should not be needed at all. Very early batches will be best blanched by means of stout paper tied round the stems.

Leeks.—To save labour all our Leeks are this year planted in trenches, three rows in each trench, and they are now ready to have more soil applied, though not very much. Leeks, like Celery, grow well enough without being watered, but it is essential that a very liberal application of rotted manure be dug deep enough into the ground to enable the roots to benefit by it. The delicious bulbs which form at the rootstocks of two year old plants are now abundant. Those who save seed must see that the stems are properly supported, otherwise autumnal gales and high winds will certainly break them over. Our best ripened seed is secured from plants growing against south walls to which the stems are attached.

Brussels Sprouts.—At this time I give the plants a very considerable earthing up, which is necessary to keep them from being swayed about by high winds, and it also imparts fresh vigour to them. Should growth be less vigorous than is desired, a pinch of sulphate of ammonia—just as much as can be lifted by two fingers and the thumb—is placed to each before earthing up, but it is seldom this is required. Over-vigorous plants, it should be remembered, yield coarse sprouts, good enough to eat, certainly, but not so desirable as small, bullet-like ones, the produce of plants not so highly cultivated.

Broccoli.—Any varieties not yet earthed up should be seen to forthwith. Hard ground suits these, and it may be necessary to break up the soil between the rows to get loose earth for the purpose. It does no harm, but good, to cut the roots in these operations, if for no other reason than that it renders the plants more hardy and more capable of withstanding severe weather in winter, the newer type of Cauliflower-Broccoli, which is so great an advance on old varieties, being very susceptible to damage by severe cold.

Carrots.—These are a failure owing to the drought and the attack of maggot. Where there are frames or pits to spare, which is generally the case just now, seeds should be sown in comparatively light soil, which need not be deeper than 1 foot, and plenty of delicious roots will be available for winter and spring. A stump-rooted variety should be chosen.

The Hardy Fruit Garden.

Wall Trees.—Not much time is required to examine these and remove the secondary shoots that have appeared since the usual summer pruning. These are of no value whatever, and should be rubbed off instead of being cut back. Nothing is gained, but much lost, by allowing a profusion of weakly growth to remain along with, often, an over-crop of spurs and shoots. Where birds are permitted to nest unmolested, all trees with ripening and ripe fruit must be closely netted to protect it from their ravages.

Strawberries.—It is a good plan when layering for pot work to include at least some for planting out, especially of Royal Sovereign, which is splendid from annual plants and usually fails if grown longer. These will now be quite ready to plant, allowing each a little fruit manure to start it into growth and making the ground really firm. Success is only assured by their making the maximum possible growth before it is stopped on the advent of winter. If the weather is dry subsequent to planting, it may be necessary to moisten the ground round each for a short time till a grip of the soil is secured.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

An Extra Fine Strawberry

THE Strawberry planting season is with us again, and those requiring a really fine table variety should not overlook Laxton's Leader. I have grown it for a number of years, and no matter what the season is like, Leader never fails. It is a most prolific variety, the fruit of wonderful size, good colour and excellent flavour. Our soil is a heavy loam, well cultivated and manured; but I also hear excellent reports of this Strawberry from other districts. So far as I can see, it has only one fault, and that it shares with the bulk of modern varieties—it is but a short liver. It gives grand crops for two seasons, and then out it must come, or disappointment is certain. It is a very dwarf but sturdy grower, and produces runners in plenty. The fruits withstand both rain and drought better than most sorts. A really desirable Strawberry.

Preston House Gardens, Linlithgow. C. BLAIR.

ANSWERS TO CORRESPONDENTS

"BOTANICAL MAGAZINE" (*M. C. D.*).—The *Botanical Magazine* can be obtained from Messrs. Lovell, Reeve and Co., Limited, 6, Henrietta Street, Covent Garden, London, W.C. It is at present published quarterly, price 2s. 6d.; until recently it was published monthly.

MALFORMED PEARS (*W. F. M. C.*)—You do not say whether the supply of water to the Pear trees has been kept up through the spring and summer. Lithiasis, the condition from which your Pears are suffering, is usually attributed to lack of moisture, but experimental evidence is lacking.

HOLLYHOCK DISEASE (*Bazley*).—We fear there is no known cure for the Hollyhock disease, which is due to the fungus Puccinia malvacearum. If the plants are clean to start with and are occasionally sprayed with a rose-red solution of potassium permanganate, they may generally be kept more or less clean; but if the disease is permitted to attain any proportions, treatment is unlikely to be followed by good results.

TO KEEP DOWN DUCKWEED (*Wolseley*).—There is no easy method known of destroying Duckweed in water. It cannot be killed with a weak solution of sulphate of copper, as is the case with lower orders of plant life, and the application of a solution strong enough to kill it would probably mean the death of other water plants. The only method that has been found effective is to keep it skimmed off. A circle of stout wire covered with canvas at the end of a long pole is useful for removing the weed. It is necessary, however, to persevere with the work for several weeks to make an effective clearance.

SALT AS A WEED KILLER (*E. M.*).—Ordinary common salt is usually used for spreading on ground to kill weeds, but it is doubtful whether it can be procured for the purpose at the present time. If obtainable, it is probable that any of the large stores would supply it. As a rule, however, ordinary weed killer is more effective on drives and paths, even on very sandy ground, for salt has a temporary effect, afterwards acting as a fertiliser; but weed killer may be expected to keep the paths free from weeds for nine or twelve months if properly applied. Salt should be sown over the ground thickly enough to form a light covering. It ought not to be applied during a very wet period.

ROSES FOR A ROADSIDE BANK (*A. H. R.*).—Rosa rugosa ought to make a good background for your bank of Roses. Good strong plants should be inserted about 2½ feet apart for a hedge. For the bank the following varieties could be used, planted in the order here given: Dorothy Perkins, pink; Rosa arvensis flore pleno, white; Crimson Rambler, red; Alberic Barbier, cream; American Pillar, red; Sander's White, white; Hiawatha, red; Rosa multiflora, white; Mrs. Flight, pink; and Harrisonii, yellow, double. They ought to be planted about 4 feet apart, providing the ground is good, except the last named, which is not such a strong grower as the others and could be placed about 2½ feet apart. The bank would look best planted in groups with rough branches of Oak or Elm here and there, over which the plants might ramble. Cattle may cause some injury while the plants are small.

AN EVIL-SMELLING FUNGUS (*F. M. H.*).—The fungus about which enquiries are made is doubtless the stinkhorn or wood-witch fungus, known under the scientific name of Phallus impudicus. It is common in gardens and plantations in the British Isles, particularly in shrubberies or plantations where rotten wood and other decaying vegetation is found. There is no good way of eradicating it without removing the soil to a depth of 12 inches from an infested area, for the noticeable fungus is simply the fruiting stage, the vegetative condition being in the form of threadlike mycelium which travels through the soil beneath the ground; and the application of any chemical in sufficient volume to soak the soil and kill the mycelium would probably destroy all other plant life in the vicinity as well. If the soil is removed, it should be burnt before spreading elsewhere.

NAMES OF PLANTS.—*M. E. R.*—The Rose is Edmond Proust; the shrub, the Tea Plant or Chinese Box Thorn (Lycium chinense). —— *Boris.*— Helxine Solierolii, —— *G. S., Hants.*—Lysimachia Ephemerum.

OBITUARY

CHARLES T. DRUERY, V.M.H., F.L.S.

READERS in general, and Fern-lovers in particular, will learn with deep regret of the death of Mr. Charles T. Druery, which occurred on August 8 after a long illness. He was a great traveller and notable collector and writer on British Ferns, secretary of the British Pteridological Society, and editor of the society's journal, the *British Fern Gazette*. Moreover, he was a humorist, and his genial presence and kindness of heart will be sadly missed at the horticultural gatherings in London. An appreciation and portrait of our late friend and contributor will appear in our next issue.

British Grown Bulbs and Paper Shortage.

In order to conserve supplies of paper for essential and other purposes promoting Food Production, Bees Ltd. will not issue Bulb Catalogues this season. Customers are therefore referred to the full page advertisement which appeared on page iii. in last week's issue, and are invited to make up their orders therefrom, or to write to Bees Ltd. for a reprint which will be sent gratis and post free.

Roses and Plants.

New Catalogues will not be issued, but a list of revised prices may be obtained gratis and post free. Applicants who do not possess Bees' last season's Rose and Plant Catalogue, may have a copy if they will kindly make immediate application.

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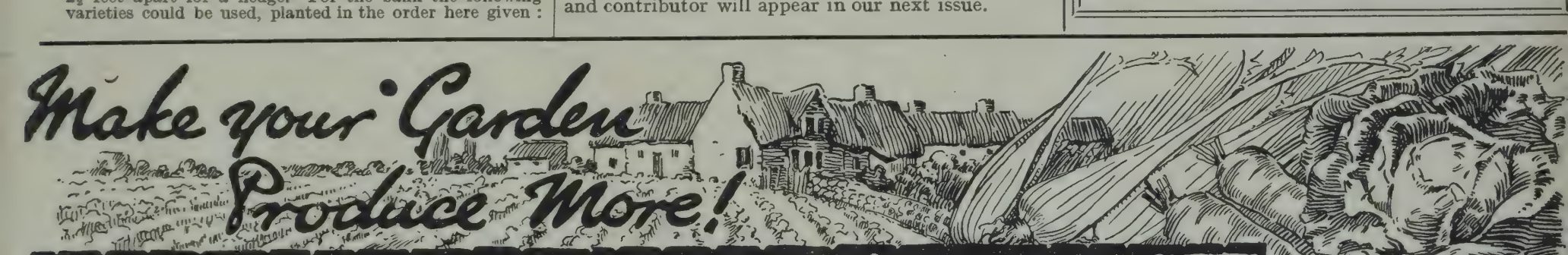

As "THE GARDEN" said in an article in the August 4th issue:—

"Those who have not sprayed should do so without further delay. We have seen the "Ubel" Knapsack Spraying machines in use and know them to be effective. Moreover the comfort with which they are carried and the fine mist-like spray which never fails, and the ease with which the pump works renders spraying a pleasure instead of a trying occupation."

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TRADE UBEL MARK

FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

THERE are many methods of poultry-keeping, and one plan adopted by a reader of THE GARDEN is worthy of mention. It will be found outlined below.

Keep Pullets.—My correspondent, who is a Professor of Agriculture, keeps twelve pullets in a convenient run (with no male bird) for the purpose of supplying his home with eggs. He keeps these pullets one year, buying them about November and killing them off for home consumption in the next autumn before buying in a fresh lot. His run is about 24 feet long by 10 feet wide, and is covered except for about 6 feet at one end. The roof is boarded (lean-to), then covered with felt, and over that is fixed corrugated iron. The whole is wired in to keep out sparrows, &c., and a good sheltered place is arranged at one end for the perches. His last account showed an average of 141 eggs for each bird for the year.

Leghorns Recommended.—He considers Leghorns the best for his purpose, as they do not want to sit, and his egg record for the twelve birds up to July 23 reads:

	Eggs.		*Eggs.*
January	68	May	180
February ..	154	June	198
March	175	July (to 23rd)	84
April	206		
Total			1,065

The pullets began to lay on January 1, 1917, and they are given plenty of garden greens and the lawn mowings, which, with their manure, my correspondent adds, make grand dressings for the garden. He has adopted my system of feeding as already outlined in THE GARDEN, viz., grain for breakfast and mash for tea. The grain—about 2oz. per diem for each fowl—is given in an automatic feeder or "spreader," and grit, shell and fine ashes (to dust in) are provided, together with fresh water daily. He gives Colman's Poultry Mustard in the soft food, buying large 1s. 6d. tins in the town. He also writes highly of water-glass, and puts down a lot of eggs each year for winter use.

Housing.—I have gone fully into his plan with the correspondent concerned and thrown out many hints whereby he can improve his returns. In case any of my readers might like to try this method of poultry-keeping, I will offer them a few suggestions. As regards housing, this can be improved. It will be seen that the house used for the twelve pullets is 24 feet long by 10 feet wide, and covered except for about 6 feet at one end. It is here that my correspondent defeats his object, since the flooring will be continually damp, and if a hen is wet underfoot or overhead she will never give of her best. My suggestion is that the house be roofed in all over. The front will be all the better if it is boarded up for 2 feet or so and the top section of wire-netting controlled by a glass or canvas hood hinged to the roof to keep out the driving rain. These alterations will turn the house into an intensive pattern. With the floor well littered down to promote scratching exercise, and with a glass panel placed in the roof and one in each side of the house, the accommodation will be nearer that which is ideal for winter egg-production.

Making a Start.—Professor —— makes a great mistake in starting operations as late as November. It is seldom that pullets bought at that time and placed into new and strange quarters will lay before the New Year when the milder weather sets in. If he bought in September and placed his pullets into their permanent winter quarters at once, they would become settled by October and commence to lay. Under my correspondent's plan three valuable months are wasted, and it is during this period that eggs are eggs. It must not be forgotten that one winter egg is worth two or three summer ones; hence the importance of buying pullets earlier than November.

On Ages.—The success of this method depends to a great extent upon the price paid for the birds. If they are expensive, the owner has but a year in which to get back the original outlay and a reasonable profit over cost of feeding, although, of course, the selling price must be taken into account. My correspondent was fortunate enough to secure his pullets cheaply, and each bird showed a profit of about 10s. on the year. Where the pullets are "home" bred and reared, this plan is excellent, as the birds are secured at cost price. I think that the system can be improved if the selected pullets are retained another season.

An Alternate Plan.—What I suggest is this: We start with twelve pullets purchased in August or September and brought into lay by October. All are kept till the next autumn, when they are carefully examined, as under my scheme they will have to be divided into two groups. When July or August comes round, those birds that have commenced the moult will be warmly housed and properly handled with the express idea of getting them over the moult normally and into lay again by the October or early November. These will be retained throughout the winter months and as many eggs as possible obtained from them. They can be disposed of the next spring or summer, or even prior to the autumn moult.

The Late-Moulters.—There will be some pullets, however, that will show no signs of moult by the time August comes round, and these should be marked for early disposal. While the pullets in the other group will be warmly housed and encouraged to moult, the pullets in this group will be given free range and everything done to discourage the moult. A liberal diet will be introduced in order to make the birds lay a final clutch of eggs prior to their being disposed of. Under this arrangement the purchase price of the pullets retained over their second winter of laying will be extended over two seasons. With many this will be a point worthy of consideration.

Trap-Nesting the Pullets.—A more accurate way of ascertaining which birds were worth keeping over the second winter for laying purposes would be by trap-nesting the pullets during their first season of laying. Having installed trap-nests and marked each bird by means of a coloured or numbered ring so that all eggs laid could be booked to the individual layer, we should know at once which were the best performers. As August—the time of the moult—approached, those that merited retention over the second winter on account of their laying activities throughout the year would be enticed to take a normal moult. The remainder whose records did not warrant their retention would be given free range and force-fed so that a "final" clutch of eggs could be obtained from them prior to their being disposed of.

Winter Records.—Many will consider the trap-nesting too much trouble; others will not be able to find the necessary time to attend to the detailed work involved. Let me say at once that trap-nesting and such detailed systems increase the egg-yield of the flock, and should be carried into practice. If trap-nesting cannot be attended to for the whole season, I strongly recommend its adoption throughout the winter months. My experience has proved over and over again that the pullet which starts to lay in November has a better total for the year than her sister who commences in December and so on. One might, therefore, make a point of using the trap-nests during October, November, December and January.

Disposing of the Birds.—The disposal of the birds should be carefully considered in the case of pullets kept on over their second winter of laying. Around the Jewish festivals there is a keen demand for *heavy* hens, and if in the spring several hens are placed with a young cockerel, many buyers will be found for such *mated pens*. Again, if I was running an incubator, I should give each hen as she went broody (*i.e.*, if a heavy breed were kept) a dozen chicks and sell mother and brood, getting a good price for the mother. In such matters we enter the realms of poultry-keeping as a profession rather than as a hobby or a means of supplying the house with eggs.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C.2.

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*†**Rev. Ewbank,** rosy heliotrope, outdoors, in pots, a most entrancing, softer shade of the same colour. 2/- doz.. 15/- 100

*†**Loveliness,** satin rose, most beautifully toned and shaded blush pink. 1/6 doz., 11/6 100

*†**White Queen** (La Candeur). The nearest approach to a white Darwin, almost pure white indoors, outdoors it is shaded blush.
1/6 doz., 11/6 100

†**Margaret,** rosy pink, shaded salmon and silvery white; very attractive. 1/2 doz., 9/- 100

*†**Erguste,** mauve shaded lavender: a most delicate and beautiful shade when grown indoors.
2/- doz., 15/- 100

†**Baronne de la Tonnaye,** deep cherry rose, shaded blush, edges of petals delicate pink; very charming. 1/2 doz., 9/- 100

†**Sultan,** glossy maroon bronze, shading to intense black.
1/4 doz., 10/- 100

*†**Laurentia,** deep rosy pink, shaded carmine, rich blue centre.
1/2 doz., 9/- 100

*†**Phyllis,** heliotrope shaded grey, flushed rose. 1/6 doz., 10/6 100.

Darwin Tulips (mixed), a fine blend of colour.
1/- doz., 7/6 100

MAY FLOWERING or COTTAGE TULIPS.

These tulips are excellent for bedding, and may be used with confidence in place of the Dutch tulips which are not available this year. Height about 18 inches.

†**Golden Crown,** bright golden yellow, edged and flushed scarlet; a strikingly effective bedding and border tulip. 10d. doz., 6/- 100

*†**Bouton d'Or,** practically a golden yellow Darwin; quite the best hardy yellow tulip; a rich effective colour and a certain success everywhere. 1/- doz., 7/6 100

*†**Gesneriana major,** brilliant glowing scarlet; dazzling blue centre; one of the most gorgeous.
1/- doz., 7/6 100

Gesneriana oculata, scarlet, with white eye and blue centre, very striking. 10d. doz., 6/- 100

†**Macrospila,** splendid glowing crimson, shaded scarlet, with intense blue-black centre, and a pleasant spicy fragrance.
8d. doz., 5/- 100

Caledonia, glowing orange scarlet: like a veritable flame; very distinctive and striking.
1/- doz., 7/6 100

COTTAGE TULIPS

*†**Inglescombe Yellow.** For perfection of form and colouring this tulip has no rival. Of large size, almost spherical when fully grown, and of a deep canary yellow colour possessed by no other tulip, it is a joy to see it growing.
1/10 doz., 14/- 100.

*†**La Candeur** or Parisian white, a handsome white tulip, for bedding and cutting, does well in pots.
1/2 doz., 9/- 100

†**Gesneriana Rosea,** handsome cherry rose flowers, shaded carmine; very large and fine.
10d. doz., 6/- 100

†**Rosalind,** a sweet and charming tulip, beautiful cherry carmine shaded rose with white centre,
1/- doz., 7/6 100

†**Picotee,** or Maiden's Blush; one of the daintiest of tulips; charming white, edged and feathered with rosy cerise, especially in the later stages.
1/- doz., 7/6 100

*†**Parisian Yellow,** clear rich yellow; a deep, elegantly pointed flower; showy and reliable.
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Cottage Tulips (mixed); a showy mixture of colour for bedding. 9d. doz., 5/6 100

MISCELLANEOUS.

*†**Winter Aconite,** the golden or butterfly yellow gem which carpets the ground in March; recommended to be used in place of crocuses. 6d. doz., 3/6 100

*†**Scarlet Anemone** (fulgens), dazzling scarlet, with few exceptions the most brilliant outdoor spring flower. 1/- doz., 7/6 100

*†**Bluebells,** mixed shades of blue, &c.; charming in pot or border. 7d. doz., 4/- 100

†**Blue Spanish Iris,** very scarce; fine home-grown bulbs.
8d. doz., 5/- 100

†**Mixed Spanish Iris.**
8d. doz., 5/- 100

†**White English Iris,** handsome large white flowers.
1/- doz., 7/6 100

†**Mixed English Iris,** quite hardy outdoors. 1/- doz., 7/6 100

*†**Double Snowdrops,** very charming in pots of fibre or soil; do well indoors or out.
Top size, 10d. doz., 6/- 100
First size, 7d. ,, 4/6 ,,

*†**Single Snowdrops,** the true English Snowdrop, the one which grows and multiplies in border or woodland; does well in pots.
Top size, 10d. doz., 6/- 100
First size, 7d. ,, 4/6 ,,

*†**Blue Star of Bethlehem** (O. pyramidale), very handsome spikes of rich blue flowers; may be grown in pots or border.
2/- doz., 18/- 100

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* *indicates suitability for pots and bowls.*
† ,, ,, *beds and borders.*

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THE GARDEN.

No. 2388.—Vol. LXXXI.] [August 25, 1917.

NOTES OF THE WEEK

We all miss the flow of catalogues that used to pour in with an extra rush just before sowing and planting seasons and continue more or less steadily all the year round. Many useful catalogues are still being printed; there are, for instance, catalogues of fruit trees, Roses, bulbs, trees and shrubs, herbaceous and alpine plants. Readers need not be without them; all that is necessary is to glance down the list published weekly in our advertisement pages, and they will be sent free on receipt of a post card. It is hoped that this selection of the best catalogues will prove helpful alike to readers and the trade.

Phormium tenax.—Now that tying material is dear to buy and sometimes difficult to obtain, it will be of use to remind readers of the good qualities of the New Zealand Flax. Where this is grown there need be no lack of good tying stuff, for every leaf will yield from twenty-five to thirty or more yards. The leaf is like two sword blades laid together; they are united at the lower end, but towards the middle they gradually separate from thence upwards, holding together by one edge. At the lower end of the leaf, when it is cut off, a nick with a knife at intervals of rather less than one-eighth of an inch enables the leaf to be torn into strips. We are using them now to tie up the pillar Roses that have had their old wood cut out. They can be used either green or dry, but the green are the more lissom; however, a soaking in water will make dry strips work comfortably. The green leaves are rather best, and there are always some lower ones to spare, but even the outer ones that have gone brown are not to be despised. The fibre is so strong—hence the specific name tenax (holding)—that a single one can be used as thread for sewing; in fact, it is stronger than ordinary sewing thread, for it cannot be broken in the hand. If it were a comparison of strength between a new porpoise-hide bootlace and a strip of Phormium, and both were subjected to a breaking strain, we feel confident that the bootlace would be the first to go.

Annual Poppies.—In the flower garden of Rookesbury Park, Hants, the ordinary summer bedding plants, such as Heliotropes, Calceolarias, Begonias and the like, have made room this season for a display of double Poppies of the Papaver somniferum type, and certainly with pleasing colour results. Later the seed-pods will be valuable from a medicinal point of view. The strain is Sutton's Giant Double, in colours of scarlet, chamois rose, white, mauve, striped and black. The seed was sown thinly in the beds and the plants thinned early; the result is robust growth and large, handsome blossoms, which contrast well with the large glaucous leaves. The effect is certainly handsome.

Plum Blue Rock.—Those in quest of an early kitchen Plum and a sure cropper could not do better than plant the above. On a west wall it grows freely, crops heavily, and attains almost the size of an Orleans Plum, and is ready for stewing in ordinary seasons by the end of July or quite early in August.

Apple Early Victoria.—Those who want an early kitchen Apple where space is limited would do well to plant this variety, which is synonymous with Emmett's Early. The habit of growth is upright, clean and vigorous, and at the end of July the tree bears clean, good-sized fruits of excellent cooking quality.

Apple Peacemaker.—This new Apple, raised by the late Mr. C. Ross, is a cross between The Houblon and Rival, and is of handsome appearance, in colour pale yellow flushed and streaked with crimson. It is a heavy cropper and early in coming into bearing. A small bush tree planted in the autumn is now carrying thirty handsome Apples. As a cooker it is all that could be desired. Its season is September. The compact habit of growth is well suited for a small garden.

Onion Autumn Triumph.—It is interesting to note that Mr. Edwin Beckett's new Onion, Autumn Triumph, has just received an award of merit after trial at Wisley. A notable feature of this variety is its wonderful keeping properties. If sown in August it stands the winter well, and when harvested it is said to keep quite as well as any spring-sown Onion. On the occasion of a recent visit to Aldenham House Gardens we were pleased to see this Onion carrying a promising crop of seed. It is an excellent variety and worthy of the garden in which it is grown.

MR. BECKETT'S NEW ONION, AUTUMN TRIUMPH.

Rhodanthes to the Rescue.—Things are looking gloomy for our gardens, as labour is getting increasingly scarce and as there seems at the time of writing to be every chance of a restriction on the use of coal and, presumably, also on that of coke. Everyone who has a bit of glass can grow with the greatest ease these charming annuals, of which there are three varieties: alba (pure white), maculata (rosy pink) and Manglesii (rosy pink with a dark centre). Rhodanthes come under the category of Everlasting Flowers. No others are so dainty and pretty. When they are carefully gathered, dried and kept, they are most useful as a stand-by for the semi-flowerless days of winter. They come in so well for table decoration, and they are not to be despised in rooms. They are quite a war-time flower.

The Specific Name of the Common Hydrangea.—It is of interest to read in The Garden for August 18, on the authority of such an enthusiastic plantsman as Sir Herbert Maxwell, that the correct specific name is Hortensia. There seems to be a considerable difference of opinion on the subject, in proof of which we may mention that in the "Dictionary of Gardening" Nicholson refers to it as hortensis. Then in the first Kew Hand List of Trees and Shrubs, published in 1894, it is given as Hortensia, while in the last issue (1902) hortensis is used, the name Hortensia being given as a synonym. Furthermore, we have a recollection of a note some years ago in The Garden by Mr. Bean, in which he called attention to the name of hortensis being wrongly used, pointing out that it should be Hortensia, after Queen Hortense. In his latest work on trees and shrubs this writer says the older and proper name is no doubt hortensis. While this may be so, one is inclined to ask whether (if priority of nomenclature counts for anything) the name should not be Hortensia opuloides? With regard to the Hydrangea being named in honour of Queen Hortense, Mr. Bean in his work quotes from a book published in Paris by Le Comte Joubert in 1876. The writer says: "It is generally believed that the Hortensia bears the name of Queen Hortense, daughter of the Empress Josephine, and was sometimes used under the second Empire as a political emblem. This is a serious error. The plant was dedicated to Mme. Hortense Lepant, wife of a celebrated clockmaker of Paris, and a friend of the botanist Lamarc." This leaves the question even more complicated.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

PLANTING POTATOES WITH A DIBBER.

THIS is a custom as old as the hills and still largely employed, and, in some cases, with success. Like every detail in gardening, there are two ways of doing the same thing—a right and a wrong. In the hands of one person a dibber can be used satisfactorily, while in those of another it may be equally bad. No doubt the best of all methods of planting Potatoes in the garden is by digging and planting in the chopped-out trench as the work proceeds. By this method loose soil is around the Potatoes entirely, and nothing in the way to interfere with the root penetration. No doubt the planting of Potatoes on newly broken up grassland has compelled the use of the dibber much more than is common in ordinary times. Where the digging or ploughing of grassland was shallow, it is difficult to see how otherwise the tubers could be put in. I lately saw a two-acre plot of Potatoes growing on newly ploughed up park-land, which was not done until February, and only ploughed once, the sward being fairly well buried. The planting was wholly done with a specially made dibber 8 inches long, 4 inches thick, slightly pointed, with a tread or cross-piece at the top, the handle being 4 feet long. At the bottom of each hole fine soil was placed, which made a firm resting-place for the tubers. All the seed was planted at the uniform depth of 6 inches. Right away from the start the growth was regular and vigorous. It was Scotch seed. As I saw the plot last week the prospect of a heavy crop is of the best. Ample space (2 feet 6 inches) between the rows was given for development of haulm and leaf.—E. M.

I HAVE seen some grand results from Potatoes which have been planted with a dibber, and have also seen both good and poor results from seed that has been trenched. To my mind the main thing to ensure success is the ground being well dug—I mean straight dug, not slanting, as I have noticed several times that straight digging brings that part to the surface which is most needed; it also provides the looseness which the Potatoes so much like. Proper manuring is also very essential—I mean being spread evenly over the ground. Never go on ground when wet, for the footmarks will leave a solid impression and the roots or fibres cannot get about to do their work properly. A few years ago I was in the Midland Counties, and one year I remember we dibbed the Potato seed. I watched the progress of this crop, and, of course, attention was given when needed; but the tubers were put in when the ground was dry. The time for taking them up came. From a piece of ground 225 square yards, upwards of 10cwt. of Potatoes were gathered, some weighing from 12oz. to 18oz. each. I thought this was a fair crop after being dibbed.—INTERESTED.

I WAS very much interested in Mr. Osburne's remarks on "Planting Potatoes with a Dibber." I note the soil was of a light, sandy nature, and if planted in favourable weather there must have been some other trouble than the use of a dibber. I have used the dibber on our soil, loam on chalk (which becomes very sticky after rain), for several years. Up to the present I have lifted two sorts of Potatoes, and they gave the following results. I planted 14lb. of Sharpe's Express, which yielded 2½cwt.; 14lb. of British Queen gave a crop of 4cwt. 37lb., with very few small tubers. The two varieties occupied a piece of ground measuring about three rods. The seed, about the size of bantam's eggs, was planted on March 18, 2 feet apart each way. No artificial manure was used. The plants were sprayed with Bordeaux mixture when 6 inches to 8 inches high, and once since. Two miles from here I have in my charge another piece of similar ground planted with Potatoes; here a spade and trowel were used. Not having taken any from this piece yet, I cannot say what the result will be.—M. N., *The Gardens, St. Clere, Kemsing, Kent.*

TOMATO GRAFTED ON POTATO.

A FRIEND of mine, an expert Tomato grower, has been trying an experiment in which I have taken a great interest. I do not know whether it is anything new or not—it may be as old as the hills—but, thinking it might possibly be of interest to readers of THE GARDEN, I enclose a photograph of the result. It is a combined plant,

THE COMBINED TOMATO-POTATO PLANT.

producing Potatoes at the root and Tomatoes at the top. The result was obtained by grafting the top of a young Tomato plant on to a detached Potato sprout and growing on in a 10-inch pot like an ordinary Tomato. [Yes; the experiment is an old one, but it is none the less interesting.—ED.] There are several clusters of ripe fruit in various stages towards the top of the plant, which are not included in the photograph.—SAMUEL THOMPSON.

DEER IN GARDENS.

I FEAR Bean poles stuck about in a hedge, as advised by "Anne Amateur," will never deter the deer from coming into a garden where they have once found so many dainties. Of course, the trespassers in this case are fallow deer, and they may be less determined thieves than their big relatives, the red deer of Exmoor. The hill farmers in this district sometimes suspend a rope (preferably tarred) along the hedgerows (which are anything but level) through which the deer have forced their way. It is effective for a time until they become accustomed to it, but nothing short of very tall wire-netting will ever keep hungry stags from a Turnip field in winter. In a garden a good plan would be to chain a big dog (an Airedale for choice) to a strong wire running the length of the garden; the dog would be sure to hear or smell the approach of the deer, and its barking and chain rattling would, I think, effectually scare off the marauders. It would be useless to plant fresh vegetables in the garden so long as the deer can possibly obtain access to them. A red deer stag is a most extravagant and dainty feeder; he will pull any number of Turnips out of the ground, take one bite out of each, and throw the root away. His wives are less wasteful, but at the same time they are anything but desirable visitors to a garden. Farmers often go out with their sheepdogs after dark and scare the deer off the crops, but they will return sooner or later the same night to their interrupted feast.—N. G. HADDEN, *West Porlock, Somerset.*

THE PLAGUE OF "CABBAGE WHITES."

HAS Mr. Ponting tried salt water? A local enthusiast who has been giving me lessons in bee-keeping saw that my Cabbages were suffering, and advised me to drench them with salt water. I did so, and found it most efficacious. I also syringed my Gladioli with the same, and for the first time they have escaped the ravages of these pests, which have always injured them more or less. Last year I tried an infusion of Quassia chips, which was useful, but not nearly so successful as the salt water. I also go "bug-hunting" daily with a net, and am glad to find that my hand has not quite lost its cunning. We have had a few big Tortoiseshells already, so I hope for some Red Admirals when the Buddleia is out. Last year we had none of these ever-welcome beauties.—W. D., *Altrincham.*

HERB DRYING.

FOR those who have, as *all* houses should, a well-heated linen-room, there is no method of drying herbs or *any* vegetables so simple and efficient. Lay the herbs on clean paper on the shelves; also Peas, Beans, &c., either hung up or also on shelves; push in the oven dampers and pull out the boiler damper. If the room has a window, open it, otherwise an electric fan will keep the hot air moving. If these are unobtainable, they are at least not necessities. Herbs retain their flavour infinitely better treated in this way than the old-fashioned method of leaving them hung in a barn at the mercy of flies and dust. Peas dried thus last year were excellent through the winter; the remainder were sown and yielded a fine crop this summer.—(Mrs.) B. M. C.

CARDUUS HETEROPHYLLUS.

THIS, the Melancholy Plume Thistle, is generally described as a weed; nevertheless, when cultivated it makes an exceedingly ornamental perennial well worth consideration for grouping in the herbaceous border or shrubbery. In its wild state C. heterophyllus attains a height of no more than 3 feet; but grown in ordinary garden soil it reaches a height of 5 feet to 6 feet when in flower in July. The leaves, which are dark green on the upper surface with a whitish down underneath, make a good setting for the deep purple flowers. Plants can be increased by division in winter or spring, though when left undisturbed for years this wilding, unlike many of its family, seldom outgrows its allotted space.—M. M.

THE BEETROOT AS A BEDDING PLANT.

THIS useful vegetable has been grown largely in the flower-beds this season, and rightly so, as few foliage plants are more beautiful when good varieties are employed. Here we sowed rather a large quantity in 3-inch pots the first week in May, raised them in cold frames, and planted out the first week in June, the variety employed being Sutton's Blood Red. The results are all one could wish. The advantages over sowing in the open are patent, as the young plants can be planted at regular intervals without any fear of missing, and the best-coloured plants only used.—E. BECKETT.

NOTES FROM A COUNTY DOWN GARDEN.

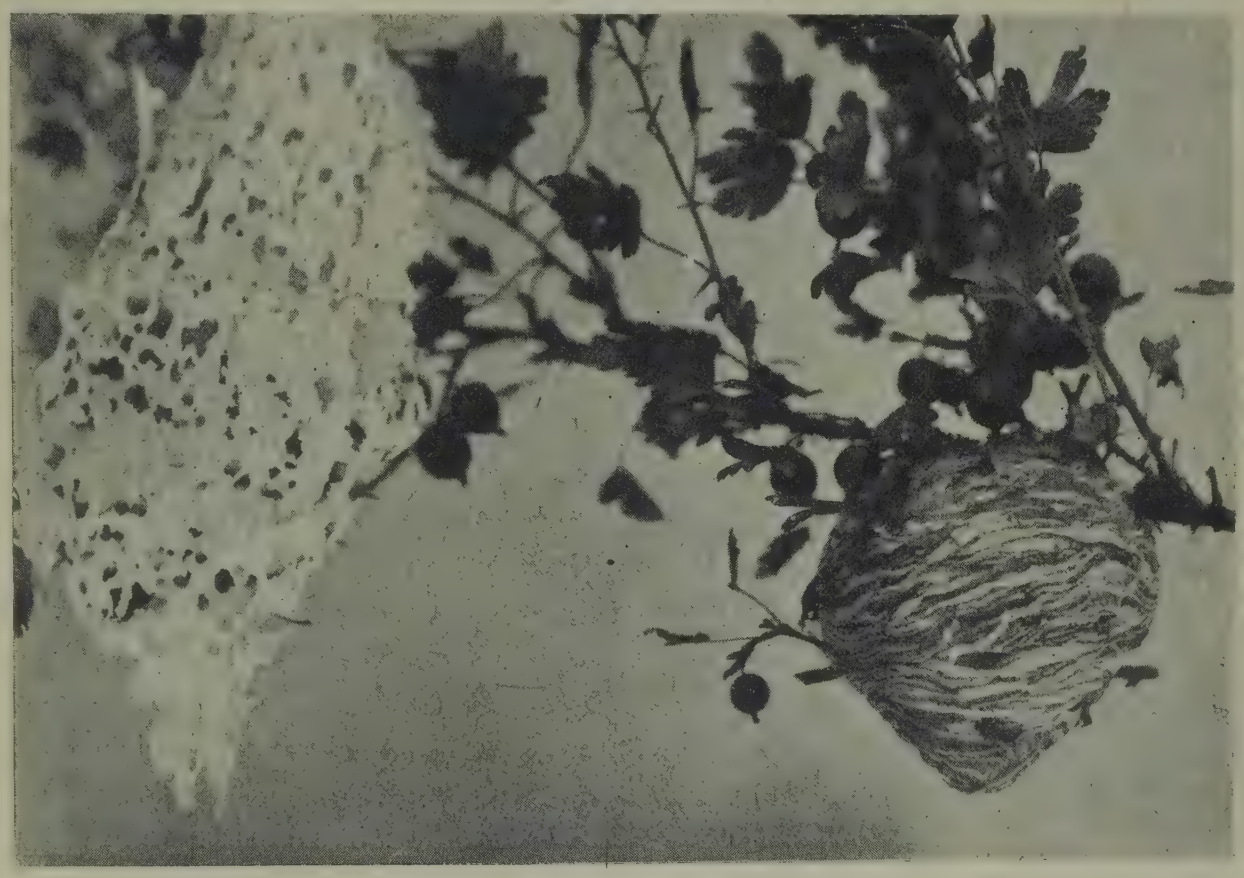
THE question which I have seen in notes in THE GARDEN as to the fragrance of our newer Sweet Peas, and, for that matter, Roses, is an interesting one. I think perhaps it may be explained in this way: Hybridists seem to aim at obtaining large, fine-looking flowers which immediately strike the public eye on the exhibitors' table, rather than try to secure more moderate-sized blooms which have other attributes as well. The way to bring back fragrance to the exhibition table is to direct judges to give points for same. In old-time gardens it was usual to have a herbary and sometimes a special room for the distillation and extraction of the perfumes from flowers. The subject is a very interesting one, and I can give the names of some books on the subject to interested enquirers. In this town we have over a hundred garden plots, and one notices the immense good that has been done to the community by their adoption. Prizes were given for the best cultivated plots, the best Potatoes and the best vegetables, and due regard was taken of well-maintained succession and selection of plants grown. On the whole this, the first year of the undertaking, has been a great success and is very creditable to the organisers and workers. The Irish Rose Show was held in Belfast recently, and one has pleasure in remembering the beautiful stands of Roses and Sweet Peas. Mr. Edward Cowdy was to the front with his magnificent Sweet Peas, and I noticed a dark-shaded variety, called Lord Fisher, which was very effective; in fact, we want more darker varieties in Sweet Peas, more copper-coloured varieties in exhibition Roses, and more fragrance in both.—WALTER SMYTH, *Holywood, County Down.*

ANOTHER "WORD ABOUT WEEDS."

IN common, doubtless, with many others I have from time to time enjoyed reading in the columns of THE GARDEN "Anne Amateur's" racy articles, a good deal of which (as was doubtless the good lady's intention) I have not taken too seriously. As a gardener (a mere man gardener) I can hardly let her disparaging remarks in THE GARDEN of August 4, page 305, on "men" gardeners pass unchallenged. "Anne Amateur" says, "for *real* weeding, give me women workers on the land 'every time,'" the reason assigned being that the men "generally merely dig weeds in and make a smooth surface over them." Now, I am not going to discuss the question of the efficiency of women gardeners *versus* men gardeners, as my knowledge of the former (although all in their favour) is too limited. I have, however, had well-nigh half a century's experience of "men" gardeners, chiefly in Scotland, but also in England and Ireland to a limited extent. It, of course, stands to reason that in the course of my experience I have met with some inefficient "men" gardeners, just as I have met with inefficient men—aye, and women—in other walks of life. Upon the whole, however, my experience of "men" gardeners has been happier than that of "Anne Amateur." I have more than once heard my father—a Surrey man and trained under the once-renowned Charles Mackintosh at Claremont—declare that "you could not find a hatful of weeds in the whole place"—a fair-sized Scottish garden—and they were not "dug in." If "Anne Amateur" will employ properly trained men she will generally find that they will not dig in the weeds, and, what is more, if she provides a sufficiency of labour (almost an impossibility at present), properly trained, whether men or women, she will neither require the weeds to be raked off nor "dug in," as the operation of hoeing will be always undertaken in time and will do all that is required in the way of killing the weeds. I, of course, approve of deep hoeing as a method of cultivation, but keeping down weeds is quite a different story.—CALEDONIA.

A WASPS' NEST ON A GOOSEBERRY BUSH.

I AM sending a photograph of a wasps' nest on a Gooseberry bush. The paper with holes by the side shows the work of the wasps. They used little pieces of paper to help build the nest.—E. M. GODDARD, 66, *East Street, Farnham, Surrey.*



THE WORK OF THE WASPS.

HERBACEOUS PLANTS IN TURF.

THE article by Mr. Clarence Elliott on the above subject on page 262, issue July 7, would, I venture to write, have been more valuable had he stated the nature of his soil, whether heavy, medium, or light. That several of the more vigorous of our hardy plants would grow in almost any grass land is not new by any means, while on light and well-drained soils many more kinds will certainly thrive, the grass acting as a mulch and protection to the roots from the hot sun as well as forming a pleasing setting to the flowers. Those having a heavy or badly drained soil to deal with should go steadily in their experiments in planting in turf, to avoid unnecessary losses. I have grave doubts of the continued success of two kinds mentioned by Mr. Elliott—Sweet William and Scabiosa caucasica. Both are too prone to rot away in the winter at least that was my experience on a heavy soil in Highgate. In wet winters we had to mulch the Scabious with ashes to save it from decaying. Other plants for grass land culture are the Tritoma and perennial Pea, examples of each being found so growing in Waterlow Park, Highgate—or were so in pre-war days. The German Iris will do in light grass land also, one of the finest groupings I ever saw being so grown in a Yorkshire garden, while there are a few here so treated. The Japanese Iris will be at home in moist turf, and the Harebell Campanula in light turf.—C. T., *Ampthill.*

Preserving Fruit in Cold Water

I ENCLOSE a note which appeared in the *Horticultural Advertiser* of August 8, and which I think is of such importance that it should be made more public than is possible through a trade paper. CHARLES E. PEARSON.

"Dear Sirs,—It is some time since I wrote to you. On this occasion I send you some information which should be of the greatest importance to the welfare of England, and which certainly deserves the widest publicity. To your discretion I leave the rest.

"Last winter I found in our public market a Mrs. M. Rudd disposing of bottled fruit preserved in cold water without the use of any sugar or cooking. She was also telling the public how to do the same. I asked her if she would appear before our Natural History Society and give us a demonstration and submit to a public test. She agreed. Last April Mrs. Rudd appeared before us and produced bottles of Rhubarb, Gooseberries, Loganberries, Blackberries, Cherries and Black Currants put up by this process, and stated that she had also succeeded with Peaches, Nectarines, Plums, Strawberries, Raspberries (these last two lose their colour), Peas, Beans, Corn and Tomatoes. We sampled Loganberries and Cherries. Instead of finding the Logans watery and insipid, as I expected, I found them rich and luscious in

flavour, far sweeter and much superior to fresh fruit. She stated the liquor would make jelly. It was difficult to believe that sugar had not been added. The Cherries were not as crisp as fresh fruit, but otherwise just as good, and the liquor was the most delicious beverage I ever tasted. We handed these two bottles to one of our members, an analytical chemist, for report. A copy of his report is enclosed.

"Mrs. Rudd's method is as follows: Place the fresh fruit in any bottle that can be hermetically sealed by a rubber band; place the bottles in any receptacle that will hold 4 inches to 5 inches of water over the top of the bottles. Let the water tap run into each bottle with some force, to pack the fruit and wash out any impurities. Let the tap continue to run until the receptacle is full and running over. Then stop the tap. Wait about five minutes until all air bubbles have ceased to rise; then seal under the water. Take out bottles, wipe dry, turn upside-down. If dry next morning you have a perfect job; if leaking you must do again.

"It is evident from this that the all-essential principle is to get the air out, and keep it out. As proof of this I will instance ripe Plums. One of our members whispered to me, 'How does she get on with Plums? When ripe there is an air space round the pit.' I asked her. The answer came pat: 'You must do Plums before they are quite ripe.' Mrs. Rudd has no scientific knowledge, but is very practical.

"Now it is certain that what can be done in a bottle can be done in a tin, especially in those in which the lids push in, such as molasses and jam tins. If the joint leaks I would suggest covering with paraffin wax.

"I need hardly point out to you the value of this process at the present time. It means the turning of the summer surplus into a valuable winter food at a minimum of cost and labour, and a great saving in sugar. It means that every family can help themselves, and consequently help in solving the transportation problem. (It means also the probable end of Tomato-growing under glass.) Mrs. Rudd has not experimented with any cut fruit.

"We have notified our Provincial Government, also the Federal Authorities at Ottawa and Washington; also the French and Belgian Consuls here, and have sent a full report and samples of Mrs. Rudd's fruit to the British Food Controller, and now I am notifying you; and then I think my duty is done. Yours faithfully,

"EDW. ALEX. WALLACE.

"COPY OF CERTIFICATE.

"Dear Sir,—Some time since I was requested to examine and report upon samples of fruit preserved in water.

"The samples submitted to me consist of one sample of Loganberries and one sample of Cherries, in glass jars.

"I found the fruit to be in excellent condition, retaining its natural flavour and quite free from any objectionable taste.

"The fruit had been put up without any added sugar and there was no evidence of any change.

"Several days after the jars had been opened and examined, part of the contents of both jars were used on our table, and found to be fresh and sound in every respect.

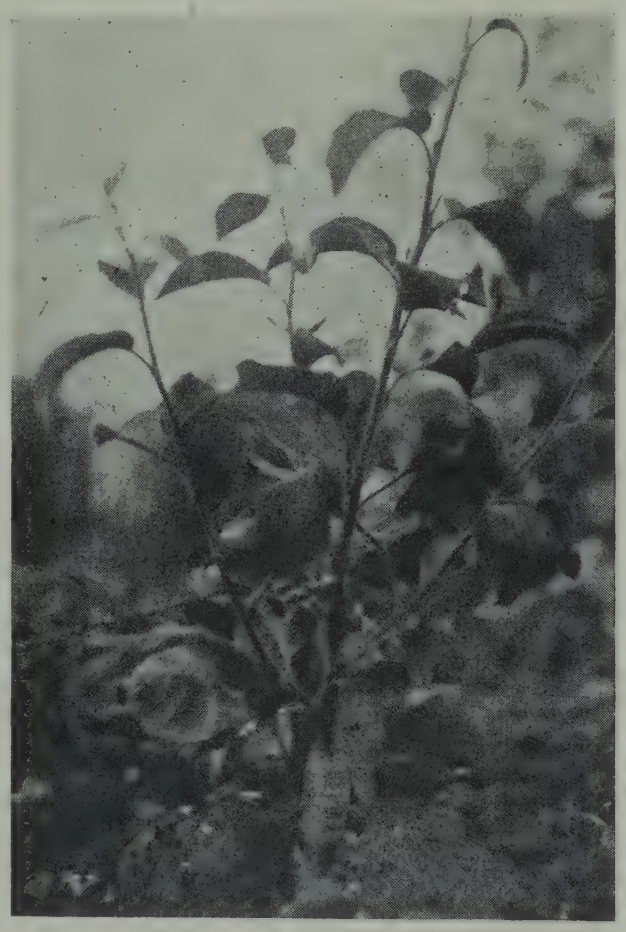
"The Loganberries, especially, were much superior to fresh berries, as the seeds had softened and the juices of the berries had penetrated every part of the containing water, so that the addition of a very small amount of sugar to the uncooked berries produced an excellent jam.

"I remain, yours truly,

"(Signed) W. F. BEST."

Restoration of Injured Fruit Trees

I AM sending herewith a photograph showing one of many successful examples of grafting performed by schoolboys under my instruction and supervision. At one of our school gardens in Kent a number of Paradise stocks had been planted, and on visiting the school to see about the grafting of them last April, I learned that during the severe winter a considerable number of young established Apple trees had been gnawed by hares or rabbits, the whole of the bark having been stripped off from a point an inch or so from the ground up to a height of a foot or more. I examined the trees with a view to ascertaining whether it was possible to link up the upper and lower areas of uninjured bark with scions, but, finding this impracticable, cut the trees hard back and grafted them in the same way as the Paradise stocks. The work was done late in April, and the photograph—which was taken towards the end of June by a clever amateur,



APPLE TREE GRAFTED BY A SCHOOLBOY.

Mr. E. W. Penfold—shows the result. Already we have nice young trees to reward our enterprise.

The school referred to is the Council School at Green Street Green, near Orpington, and with the exception of a few grafts which I put on to demonstrate the methods, the work was done by the interested and intelligent head-master, Mr. Pilbeam, and his boys, to whom much credit is due. Perhaps I may add that in my judgment success in grafting turns largely on the use of fresh scions and good wax. I find nothing better than resin, beeswax and tallow, melted together in the proportions of 4, 2, 1 by weight and brushed on in a paint-like state. It sets instantly and never cracks. W. P. WRIGHT.

APPLE NEWTOWN PIPPIN.

SELDOM does one come across a full crop of this American Apple; more often do we see trees of this variety poor in growth. I think it is generally acknowledged that this Apple is not a success in this country. When one does come across a healthy tree it is a comforting sight, because what English Apple is equal to this in flavour when really in good condition? Last year I saw in Messrs. R. Veitch's nursery at Exeter an exceedingly healthy espalier-trained tree of this variety. Mr. Veitch said the tree invariably bore freely; and judging from the appearance of its health and general condition I was not surprised to hear the high encomiums given it. E. M.

WORK AMONG FRUIT TREES

ON the occasion of a recent visit to Mr. H. S. Colt's garden at Ascot I noticed hanging from several fruit trees soda water bottles containing a mysterious-looking liquid, and with a well-worn toothbrush attached to each bottle. On enquiring the reason for the presence of these strange implements in the fruit garden I learnt that this was a special device for the destruction of American blight or woolly aphis. The bottles contained paraffin emulsion; the toothbrushes were for rubbing the emulsion into the bark whenever and wherever the pest may be detected. As soon as woolly aphis dares to show itself on a tree it is immediately settled, and only by waging continual war against it is there any possible hope of keeping it in check. If left alone it spreads with alarming rapidity, doing irreparable damage to the trees. This method of always having the materials at hand for the destruction of woolly aphis is so very effective that I hand it on for the benefit of others. Incidentally it calls to mind the time-honoured gardening rule made by Loudon: "Never pass a weed or an insect without pulling it or taking it off, unless time forbids."

By the way, Mr. Colt tells an amusing story about smudge fires, which are used by some fruit-growers as a means of protecting fruit blossom against spring frosts. A friend of Mr. Colt who has a garden near to the Great Western Railway decided to give smudge fires a trial. One night, on the approach of frost, these fires were started. Great columns of smoke were sent up until the whole neighbourhood was enveloped in a thick black cloud, but the most serious effect of this operation was the obstruction caused on the railway. The signals were obscured and the traffic held up. The fruit blossom was saved from the effects of frost that night; but the operation has not been repeated.

Pruning Raspberries.—Another of Loudon's gardening rules runs: "Perform every operation in the proper season and in such a manner as to render another unnecessary." This useful rule applies to the pruning of Raspberries, which should be done as soon as the fruit has been gathered in, and not left till winter, as is so often the case, to the detriment of the bushes. It is the young canes made this year that will carry the next year's crop; therefore if the old fruiting canes are cut away now the young growth will be given every opportunity to develop and ripen this summer.

Pruning Black Currants.—While most fruit-growers are agreed that this is the best time to give the main pruning to Raspberries, not one in ten gives a thought to Black Currants, and yet the mode of fruiting is much the same with both fruits. It is the young growth made this year that needs light, air and room so that it may be well ripened in readiness for next year's crop. Do not postpone the pruning a day longer than necessary, but cut away the old wood which has served its purpose in life, at the same time leaving

as much young wood as may be required for next year's fruiting.

Silver-Leaf Disease.—This is a very serious menace to fruit-growers. There is hardly a garden in the country but what a Plum or Peach tree has been destroyed by this disease. The leaves assume an inert and silvery look, from which they rarely recover, and the disease spreads from branch to branch and from tree to tree. Some varieties are less subject to disease than others, and it is possible that if these varieties were used as stocks on which to bud or graft others, it would be a means of keeping the disease in check. One may search through long scientific reports for a ray of hope in combating this disease, but it is all to no purpose, for science knows no cure.

Possibly a remedy will be discovered accidentally some day, or it may happen that practical men will solve the problem. Then the scientist will step in and explain how it is done. This is the way in the world of gardening. Science does not lead; it simply follows. In the meantime, if anyone has silver-leaf in their trees, see to it at once by cutting away diseased branches and burning them. The diseased branches are stained brown inside, and they should be cut back beyond the place where the stain makes its appearance, then pare the wound round with a sharp knife and give it a coating of white paint or Stockholm tar to keep away the spores of injurious fungi which are always awaiting a chance to find an entrance through wounds in the tree. If the whole tree is affected, it should be cut down and burnt. The fungus which causes silver-leaf disease matures on the dead wood and spreads to living trees.

H. C.

EARLY POTATOES

THOSE readers who took the advice given in these columns in early spring and planted none but early varieties of Potatoes in the small plots or newly made allotments should have little to complain of regarding the crop, the timely rains which fell in many districts about the middle of June supplying the one thing needful to make this planting a complete success.

Some of the heaviest crops I have ever seen were lifted in these gardens during the early part of July, and it is most satisfactory to myself to find that the old favourite of mine, Midlothian Early, which readers will remember I have persistently recommended the small grower to rely upon for his early crop, again gave us the best returns, for although the size of the tubers lacked something when compared with several others grown under the same conditions, the number of these found under each root, and what is equally important, the good quality of even the very smallest tuber when cooked, more than compensated us for the slight deficiency in the matter of size. Sutton's Ninetyfold again proved itself to be well worth a place in the front rank where early Potatoes are concerned, and, contrary to the opinion of many, we found the results were equally as good from cut as from whole sets.

When grown upon light ground the table quality of this variety at the time of lifting is exceptionally good, the snow white appearance of a well-cooked dish being most pleasing to the eye; but readers who are not acquainted with the variety are warned against keeping a large store for winter use, for it will be found as the season advances that the tubers lose both colour and flavour, the appearance of a dish shortly after leaving the pot being anything but pleasing to the eye or acceptable to the palate.

This year the value of a change of seed has again been fully demonstrated, not only in these gardens, but more particularly in that of a local market-grower who grows Potatoes by the ton, but, not being of a very progressive turn of mind, has yet

AUGUST, 1916.

much to learn, as the following will prove: Home-saved seed of a well-known early variety was planted by him about the same time as we planted both Scotch and Irish sets. In his case the land—to use the words of the man who ploughed the ground—had been "done" extra well, and the sets planted were real toppers, so unlike those obtained from a distance four years previously, from which stock the tubers had been selected. On the other hand, our Potatoes of the same variety were planted on ground dressed only with decayed vegetable matter and a little fish manure strewn into the drills at the time of planting; yet while the grower admitted fine, fair-sized tubers were the average under each root, nearly all o' ours gave us more than a dozen, excluding the very smallest.

Readers contemplating saving seed of any variety from the crops now being lifted are advised to restrict such selection to those varieties purchased last spring from Scotch, Irish or [illegible] growers. Such invariably give results equally good, or even better, the second as the first season, but to save one's own seed each year from none but home-grown stocks is certainly not the most economical course to adopt where heavy crops are desired, and wherever the opportunity exists the seed for next year's planting should be obtained at once.

F. R. C.

A Reader's Allotment

I AM sending two photographs of an allotment taken over by myself. The plot was taken possession of in July, 1916, and the photographs taken in August, 1916, and August, 1917. The only help I received (which was very little) was from my son before he joined the Colours. The ground was in a very bad state—nothing but a mere rubbish heap, *i.e.*, bottles, old tins and various other refuse,

AUGUST, 1917.

including about a cartload of linoleum patterns. The first plant was not put into the herbaceous border until November, and the majority of the other plants not until the end of March, on account of the severe weather. I put my success down

to hard work and the knowledge obtained week by week from your valuable paper, THE GARDEN. The association to which I belong is The Avenues Garden Holders' Association, Acton Park, W., of which Mr. James Judd is the secretary.

JOHN C. SOPER.

PLANT HUNTING IN UPPER BURMAH

THE FLORA OF YUNNAN AND UPPER BURMAH IS ADMITTED TO BE ONE OF THE RICHEST IN THE WORLD.

THE following extract from a letter to Dr. Keeble from Mr. George Forrest, who is collecting plants in remote parts of Upper Burmah, will be of interest to readers. It is written from Talifee, Yunnan, *viâ* Bhamo, Upper Burmah, and dated May 2, 1917.

"After a somewhat monotonous and uninteresting journey I am at last in Tali busy preparing for trekking northwards. For the first two days out from Tuegyuch there was very heavy rain and very bad going, then ten days of excessive heat for the time of year, ending in heavy rain the day I got in here. As a result there has been another heavy fall of snow above 11,000 feet, and I hear the two passes to be crossed between here and Atnutze—the Li-ti-ping and Bei-ma-shan—are still closed, so there is no particular call for haste. However, I hope to leave here on or about the 10th, as I hope to be able to travel by the Sung Kwei Pass on my way to Lichiang. That portion of the Langkong-Haching divide is particularly rich, and though I have traversed it several times, I hope to get some more spoil.

"This, the central portion of the Province, is still in a very disturbed state. For the past month the route eastwards to Yunnanfu has been practically closed to all traffic, owing to the presence of robber bands—disbanded soldiery—who are plundering and murdering over a large area. Northwards somewhat similar conditions obtain, the country being, more or less, held by the remnants of White Wolf's gang driven southwards. However, I guess I'll scrape through, if my usual luck holds. The Governor of the Province vacates office very shortly, and it is said he has interest in one thing—only the amassing of dollars before he retires; and so it goes on. Yet what a country it might be under good government!

"So far, from the frontier up I have managed to secure specimens of some 170 species new to my previous collections. Most are trees and shrubs of much interest botanically, though of small value horticulturally. When considering this, pray bear in mind that I have passed over the route twelve times! Two or three of the finer things were collected on the Shweli-Salwin divide, though I only hunted casually by the wayside, as that portion of the range comes within the scope of the three men whom I dropped at Tuegyuch.

THE SCENE OF MR. FORREST'S LABOURS.
(*From the Journal of the Royal Horticultural Society.*)

"One species, Dichotomanthes tristaniæcarpa, a monotypic genus of Rosaceæ, only known and local in Yunnan, I secured a few seeds of. Unfortunately, the seeds procurable were some of last season's, fallen, and though I have little hope of them germinating, I send them to you. I have arranged for a quantity of seed to be collected in the autumn. Professor Balfour holds specimens of the species. It is a graceful shrub of 10 feet to 20 feet, with light-coloured, silvery foliage. The flowers are rather uninteresting, but it is good in fruit. It is practically evergreen in its habitat, with the general appearance of a Cotoneaster, but much more compact in habit.

"Fruits of two species of Cherry were also collected—one in the Salwin Valley at about 4,000 feet to 5,000 feet, and the other here, altitude 6,500 feet. Both are good and very free fruiting. Specimens in collection. I shall forward seeds of both with the above, under separate cover; also seed of a good Tsuga or Pseudotsuga collected at 6,000 feet to 7,000 feet. Quite a good conifer of 50 feet to 70 feet.

"The usual Rhododendrons were met with: R. racemosum ciliicalyx, Delavayi and forms of Fortunei, so called. I secured specimens of a form seen in small numbers, which I take to be a hybrid between a white form of Fortunei and Delavayi. It bears the Fortunei foliage, though smaller, with large pink blooms having the blotch of crimson at base seen in Delavayi. A shrub of 8 feet to 15 feet.

"In the Yangki Valley two days west of Tali the hillsides were ablaze with the blooms of Rhododendron microphyton and R. ciliicalyx. The first named, in my opinion, equals, if it does not surpass, even R. racemosum in wealth of bloom. It is said to be in cultivation, and that is probably correct; but in colour of flower and habit it is most variable, and I question if the finest forms have been secured. I marked several down, one almost pure white.

"Since our arrival here my men and I have been out once or twice on the range, as high as the present snow-line, and have added a few species to the list.

"Among the first things sought for was Rhododendron aureum, and I was fortunate enough to secure a small quantity of last year's seed, which I trust will germinate.

"In one of the gullies on the eastern flank of the range—a gully so far unexplored—I found three species, possibly four, of Rhododendrons new to me. As yet they are not numbered, as I wish to secure a larger number of specimens before including them in the collection. All are excellent subjects for horticultural purposes, two of them specially floriferous shrubs of 3 feet to 6 feet. In three the blossoms are various shades of rose with darker markings; one, the dwarfest of all, has ivory yellow blossoms flushed faint rose on exterior.

"I found also a most delightful form of R. dichraanthum, having blossoms of a beautiful shade of pink. Another form of R. sulfureum was also collected, with much larger foliage than the

THE ROSE GARDEN AT CROYDON.

type. The foregoing shows how very much there is yet to be done on this range; it would be well worth spending a full year here if I could arrange to do so. However, I'm for the north this season; and I have arranged for four collectors to work the western flank of the range as well as the head waters of the Red River, and the Ghi Shan, a small range of hills lying to the north-east of the Tali Lake. That region was the scene of much of Père Delavay's labours. I tapped it in 1914 and found it most productive. I intend leaving men behind at Lichiang to work the portions of the Lichiang Range still unexplored, as well as the mountains north and north-west of the Yangtze bend.

"Yours sincerely,

"GEORGE FORREST."

Municipal Rose Garden at Croydon

SINCE THE MUNICIPAL ROSE GARDEN AT PARK HILL, CROYDON, WAS DESCRIBED IN "THE GARDEN" OF JUNE 10, 1916, MORE BEDS HAVE BEEN ADDED, AND THE POPULARITY OF THE GARDEN HAS THIS YEAR EXCEEDED ALL EXPECTATIONS.

THE Roses first planted are now thoroughly well established, and their strong growth and profuse blooms testify, above all things, to the care originally taken in preparing the beds by deep trenching. The newly added beds are planted with Red Letter Day, Cupid, Pink Pearl, Irish Elegance, Moonlight, Prince de Bulgarie, Joseph Hill, Mme. Edouard Herriot, L. C. Breslau, Cissie Easlea, Souvenir de G. Prat and some Dwarf Polyanthas.

The original scheme—that the first plants should be presented by nurserymen and then in subsequent years the wealthier townspeople should be invited to add to the garden—has been carried out quite successfully, all the orders for new beds being placed with the nurserymen who gave the garden its first start.

The planning of the Rose garden at Park Hill and the superintendence of the growing—quite a science in itself—are in the hands of the Croydon Horticultural Societ[illegible] out the Roses on a colour scheme which make[illegible] delightful picture. It is hoped that when the war is over, much more will be done in the way of Rose cultivation. Why should Purley, for instance, be the only place to show its Rose gardens to the ordinary passer-by along the road? Close fences and walls might also be abolished, on the American system, so that all who pass by should not pass by, but stay and admire.

Croydon has fully appreciated its own Rose garden this summer, judging by the crowds of visitors that have thronged there, and since early spring the Superintendent has answered innumerable questions on pruning and habits of growth, which undoubtedly shows that the visitors are not only casual admirers, but Rose lovers and students. The Croydon Horticultural Society well deserves encouragement in the good work it is doing here, and, in the interest of the Rose, what better form of education could be devised?

ANOTHER VIEW IN THE ROSE GARDEN AT CROYDON.

LOOKING AHEAD

A SEASONABLE ARTICLE FOR ALLOTMENT HOLDERS AND OTHERS.

LACK of foresight is very largely responsible for the heavy outlay and belated or non-appearance of many crops upon newly made allotments during the present year; and among those who may be excused if they disregard the Biblical injunction to take no thought for the morrow, surely none has greater claims to total exemption than he who tills his little plot with this object always in view, for it is upon his acting in the opposite direction that not only his own, but the very existence of many others indirectly depends, and from a financial point of view there can be no two questions as to which is the most paying course to adopt—"Wait and see," or take time by the forelock and "Be prepared."

Take, for example, the seeds suitable for present sowing. A good Cabbage in early spring can rarely be purchased from local shops at less than a penny or three-halfpence—this year twopence more was often easily obtainable—yet this amount spent now on seed of a suitable variety will furnish plants sufficient to fill several square rods of ground. The value of the produce can be reckoned in pounds, not pence.

Last season the ordinary common winter greens made fabulous prices, and those readers who have this year filled their bit of ground with Potatoes, yet neglected to sow seeds of Brussels Sprouts, Kale, &c., in early spring, are advised to purchase a few hundred plants from advertisers, not waiting until the ground is cleared to receive them, but doing it at once, planting them into well-manured plots, allowing about 6 inches between the plants, and keeping these well watered. If this is done, the plants being always at hand, it will be quite an easy matter to fill the ground as the lifting proceeds, or to be put out where wanted either just before or after a good shower of rain.

In many quarters Beetroots and Carrots are allowed to stand on the ground until November—a most unwise thing to do in a year like the present when we are asked to make the best possible use of every square foot of ground—for by the time mentioned many of the Carrots will be badly split and thus be of little use for winter storing, while the Beetroots will have grown to so large a size as to make them quite useless for the purpose the grower intended.

The better plan for those to adopt who at the present time have beds of these already of the most serviceable size, and who really mean to do the best they can for their country in the matter of home-grown food, will be to lift these crops and carefully store them in a shed or pit, replanting the ground without wasting an hour of precious growing time.

Crops which may be sown without waiting for manure, dates, or rain include Turnips, Horn Carrots, Lettuces, Endive, Spinach and Radishes, while good results should follow the planting of well-grown Celery or Leeks. Another most useful crop to be sown or planted before the end of the month is that known as the London Bunch Greens, found in most seed lists under the heading of Colewort. These are very hardy, and at a foot apart often prove one of the most valuable winter greens. Still looking ahead, those readers who for various reasons could not manure the ground in early spring, and who still see but little chance of applying any to the ground intended for spring Cabbage, are advised to purchase a few pounds of Mustard seed and sow this lightly all over the intended bed. When a few inches above the soil, dig it well in and sow again, leaving the surface just as it is dug, hoeing the seed well in, and turning the second crop of Mustard well below the surface about the middle of September. If this is done, planting may be carried out immediately afterwards, and Cabbages of very useful size should follow from Easter onward.

Make the very best use of every bit of decayable rubbish, such as Potato peelings, Pea or Bean shells, Potato haulm or Cabbage leaves, putting this into a deep hole excavated in some out-of-the-way corner and pouring all house slops over the mass until the end of October, at which date it should be quickly spread over a vacant plot and buried a foot below the surface. Such ground if sown during the following week with a good variety of Longpod Bean may be relied upon to give a crop of this useful vegetable about the end of next May. In many districts birds, mice and rats attack the outdoor crop of Tomatoes just as the fruits begin to colour, and it should be noted that when either of these intruders start, they come not singly but in battalions, and soon destroy the grower's hopes of a record crop. Such a dire catastrophe may be prevented if the grower is careful to remove all fruits immediately they are on the turn, finishing the ripening in a closed box in a warm room.

F. R. C.

The Yellow Austrian Briar

(ROSA FŒTIDA = R. LUTEA.)

THE bloom of this beautiful single Rose has been fuller than usual and more intensely bright in its pure, strong yellow colouring. It is a member of the Spinosissima group of Roses, represented in the British Isles by the Burnet Rose of our coasts, of which the Scotch Briars are the garden derivatives. The native places of the Yellow Austrian Briar range from the Crimea through Asia Minor to Turkestan and Tibet, but it has also been found sparingly in Switzerland and Southern France. The brilliant scarlet Rose called the Copper Austrian Briar is botanically the same, though with this curious variation in colour; their identity has been established by flowers of the two colours having been found on the same plant. It is related to other yellow-flowered species, namely, Xanthina, Hugonis and Ecæ, these ranging from the Altai Mountains to Western China. Rosa lutea is sometimes confounded with the Persian Briar (R. persica), but this is a double flower.

G. J.

A YELLOW ROSE—THE AUSTRIAN BRIAR.

Paronychia Capitata

THIS is a very dwarf trailing plant that should be seen as it grows naturally among the boulders and sand at the edge of a moraine or the torrent bed. There, where it is really at home, it covers the sand and much of the boulders with the daintiest carpet of tiny green growth, profusely sprinkled with little creamy white heads of flower that are chaffy and everlasting-like in texture. As a setting for other plants it is peculiarly attractive, especially when one sees tufts of a dwarf but large-belled Campanula emerge from the frothy foam, or brilliant gold patches of Lotus purpusillus that contrast with deep purple Campanula pusilla or compact tufts of Tunica Saxifraga that here shade from clear rose to pure white in the earlier stages of growth and flower. In this rarefied and fierce climate, where the sun is almost African in its power, it replaces very advantageously the well-known Arenaria balearica, where rocks are so hot at midday that the hand is scorched and tender or moisture-loving plants would wither and die. As a carpet for rocky steps this is, I think, an ideal plant in every way.

Nice. E. H. W.

TRIALS AT WISLEY

THE following awards have been made by the Council of the Royal Horticultural Society after trial at Wisley. One variety of midseason Pea which received an award of merit last year has now received a first-class certificate after further trial.

BROAD BEANS.

Awards of Merit.—Broad Windsor, from Dobbie and Co.; Exhibition Longpod, from Dobbie and Co.; and Green Giant, from Sutton and Sons.

MIDSEASON PEA.

First-class Certificate.—Pea Clipper, from Robert Sydenham, Limited (A.M., 1916).

ONIONS (AUTUMN-SOWN).

Awards of Merit.—Autumn Triumph, sent by Beckett; Froxfield, sent by Barr; Mammoth Red Tripoli, sent by Webb; White Leviathan, sent by Sutton; and Yellow Rocca, sent by Harrison.

GLOBE BEET (SPRING-SOWN).

Awards of Merit.—Dewing's Turnip-shaped, sent by Barr; and Globe, sent by Sutton.

ANNUAL POPPIES.

Awards of Merit.—Dwarf Scarlet Fringed, from R. Veitch and Son; and Scarlet King, from Barr and Sons.

DELPHINIUMS.

Awards of Merit.—Colonel Sir Wyndham Murray, sent by Blackmore and Langdon; Capri, sent by Barr and Ruys; Harry Smetham, sent by Ruys and Blackmore and Langdon; Moerheimii, sent by Barr, Ruys and Forbes; Rozenlust, sent by Ruys; Kingston Queen, sent by F. Smith; Lady Georgina Legge, sent by Kelway; Lady Hammick, sent by Blackmore and Langdon; Mrs. A. J. Watson, sent by Blackmore and Langdon; Mrs. Shirley, sent by Blackmore and Langdon; Professor Coleman, sent by Bakers; Belladonna grandiflorum, sent by Ruys; and Lamartine, sent by Barr and Ruys.

ESCHSCHOLZIAS.

Awards of Merit.—Crocea compacta Mandarin, sent by Sydenham and Barr; and Mikado, sent by Carter and Barr.

STOCKS (OUTDOOR).

Awards of Merit.—Old Rose, sent by R. Veitch and Barr; Queen Alexandra, sent by Simpson, R. Veitch and Barr.

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A Few Desirable Bulbs for Autumn Planting

NO HYACINTHS, TULIPS OR DAFFODILS INCLUDED: JUST ONE OR TWO OF THE BEST OF "THE REST."

BY THE REV. JOSEPH JACOB.

JUST as "Gentiles" takes in all people who are not Jews, so in a very old bulb catalogue "The Rest" includes all bulbs except Hyacinths and Tulips, and, in a modern one, all except Hyacinths, Tulips and Daffodils. It is accordingly a tall order to attempt to single out *even some* of the best of the rest of the huge crowd of desirables eminently suitable for autumn planting. Only fools, we know, rush in—even when prodded by the sharp point of the editorial stylus—where angels fear to tread. However, an old one knows "A fool must now and then be right by chance" (Cowper); so here goes.

Spanish Iris Souvenir.—The general silvery mauve tone of this tall-growing Iris is just as pleasing in the garden as it was when I first saw it to notice it on Messrs. Bath's stand at the last Holland House Show. I wonder if my own feeling that all Spanish Irises should bear their flowers on tall stems is a usual one. Take two of the newer very pale yellows. If Walter T. Ware seems far more pleasing than Sweetheart, it is only, I think, because of its superior height.

Spanish Iris Thunderbolt.—What lots of gardens we have, to be sure! There is Dillistone's "Formal" and Robinson's "Wild"; there is Bowles' "Lunatic Asylum." Suppose I had a garden of Nature's gentlemen, whatever would be left out, Thunderbolt's place would be assured. The exquisite blending of rich purple, bronze and dull orange is the high-water mark of dignified refinement—an Abraham Lincoln among flowers.

The Tall Yellow Dog's-tooth Violet from America.—I have written this down without much thought, but, having done so, I am conscious that quite unintentionally I have stumbled upon quite a Parkinsonian title for what to be more modern and infinitely more precise I must perforce call Erythronium americanum. I like its lovely clear buttercup yellow—so unexpected a colour it always seems to be in the Dog's-tooth Violet family. "Is that one, too?" Then see its tall, graceful, dignified poise. Were it a horse I would call it a beautiful creature. The pale buff yellow Nuttallianum is more prolific, vigorous and free—one of the best—but it has not that something which makes americanum so *distingué*. Light soil with peat or plenty of humus, and semi-shade, are indispensable conditions if it is to be seen at its best.

The Lovely Buff and Purple Crocus from Naples.—Crocus Imperati of botanists has all the makings of a florist's flower. What varied feelings has this simple sentence called up in those who have read it! For a James Douglas or a Francis D. Horner possibly those of sympathy; in others a most pronounced "Ugh!" or an even stronger intimation of antipathy. It is a plant with flowers of infinite variability. Not only do seedlings vary greatly among themselves, but, according to Mr. E. A. Bowles, individual plants selected for "their richness, or absence of feathering, after a season or two have reversed their scheme of decoration." The tone and shade of the purple or mauve of the fully expanded blooms vary greatly. There is no more interesting group in the early garden than a good-sized patch of Imperati raised from seed. Its early period of flowering makes it admirably adapted for close observation, for in February and early March there are fewer beauties to share the attention of a lover; and, again, its variability and brightness claim for it a notice which is not unworthy to be retained as a memory of the first glorious days of a new spring.

THE NEW LACHENALIA ROSEMARY.

White Giant Glory of the Snow.—About five or six years ago I found a chance pure white seedling Chionodoxa gigantea among a mixed multitude of indeterminate parentage which are allowed to monopolise certain borders of the garden. This was carefully segregated and planted, and as, fortunately, it gives an annual increase, there is now a comfortable looking little patch that yearly bears more flower-spikes, some of which are strong enough to carry two blooms, but as a rule there is only one. If there is such a thing as a white form or variety of anything, it ought to be a real white and not a cream. Scilla sibirica alba lacks purity; so do the so-called white Delphiniums except Moerheimii. Not so this white giant. It and its brother the delightful white Luciliæ are white—"as white as nip," if this old Cheshire and Norfolk saying signifies the real Simon Pure.

Cape Cowslip Rosemary.—Rosemary was raised by the writer. As I neither believe in the old gentleman of the lower regions nor in his pride that apes humility, I have included this really good thing as one of the best of "The Rest." It passed muster with the floral committee of the Royal Horticultural Society, who gave it an award of merit, and our discerning Editor has had its portrait taken. When they *do* agree on the stage their unanimity is wonderful. Yes; but it is sometimes all to no purpose. Lachenalias are as a voice crying in the wilderness. Three or four varieties are persistently catalogued, but I believe the buyers are very few in number, even of Nelsonii, the best known and the most popular of them all. *Some day things will be different.* Wait until a taller-growing progeny has been evolved and the claret edging of the bells enlarged and brightened; wait until the Marathon-like staying powers of their flowers are known; wait until the simplicity and the easiness of their culture are apprehended; wait until the coming of a glorified, magnified and less coy aurea; wait until Rosemaries are like gold in Jerusalem in the days of King Solomon; there will *then* be more growers of a quietly beautiful, but now sadly neglected, race.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Carrots.—Sow seed of Horn varieties, of which Inimitable is the best for pulling in late autumn. A warm south border would be the best site, but the absence of this need not deter the crop.

Autumn Onions.—Sow the main crop of these in rows 14 inches apart, or, if more convenient, in a bed to be planted out in February. White Leviathan, Lemon Rocca and Emperor are all desirable varieties.

Lettuce.—Sow batches of All the Year Round, Black-seeded Bath and Hammersmith Hardy Green in rows and in beds for future planting.

Late Peas.—Top the points of the haulm of late sorts like Ne Plus Ultra, Goldfinder and Gladstone where they have reached full height.

Celery.—Continue the earthing up with paper or soil for the late batch as fast as is necessary, first removing any offshoot growths from the base and small, useless leaves, always choosing dry weather, and not omitting a sprinkling of soot and wood-ashes about the plants before earthing as a check to slugs.

Mushrooms.—Collect horse-manure from which long straw has been taken, retaining the short parts, which assist fermentation and tend to aid in the evaporation of excessive steam. As an economiser of material a few fresh leaves can be added. Collect the whole in an open shed, or cover with a tarpaulin to protect from excessive rains. Turn over the heap daily to allow rank steam to escape, and thus sweeten the whole before making up into a bed.

Clear all Refuse from completed crops, such as Pea and Bean haulm, Cabbage leaves and stumps, &c., burning all such refuse with weeds. Ashes from such fires are one of the most valuable manures, and are protectors of seedling plants from slugs and other pests. Trench or deeply dig all bare plots as fast as they are cleared, so that they may be ready for future crops at short notice.

The Hardy Fruit Garden.

Summer Pruning should now be brought to a close, or the trees will not reap the benefit of sun, air and wind to mature the wood and fruit buds for next season's fruit crop.

Strawberries.—Lose no time in making up any gaps in existing rows or making new plantations. Those plants layered in pots in June will yield quite nice fruits next season if planted under favourable conditions at once to enable them to become well established before the autumn. Late plants that fruited this year in pots under cool conditions will, if put out at once, give a full crop of fruits next year, although they may not succeed so well in the future as young plants of this year's layering.

Black Currants.—Cut away all surplus and weak shoots, also those having borne a crop this season if the trees are well furnished with current season's shoots. The removal of useless shoots will enable those remaining to mature and be in a better condition next season.

Loganberries.—Cut away all the canes that yielded fruit this season, and in their place tie to the supports the current season's shoots, from which next year's fruit crop will be obtained.

Fruit Under Glass.

Peaches.—As soon as the fruit is gathered from the trees prune away all weakly shoots, also those that gave the fruit this season, to make room for the current season's shoots. Copiously supply the roots with water if there is any suspicion that the soil is approaching dryness. Daily syringe the trees to cleanse the foliage of insect pests. If there is any suspicion of red spider, vigorously wash the trees with paraffin emulsion.

The Flower Garden.

Border Carnations.—Layer at once the pipings of any variety that needs increasing. Gritty soil in a mound at the base of the plants, an upward slit in the piping, securely fastened with a wire peg, and the soil made firm about the layers, will quickly induce the formation of roots.

Pinks.—Any choice varieties of Pinks are easily increased from cuttings slipped off and inserted in sandy soil in a cold frame kept almost close for a week or two. These will quickly make sturdy plants.

Plants Under Glass.

Chrysanthemums that have filled with roots the pots in which they are to flower should receive aid from liquid stimulants.

Freesias.—Pot eight bulbs in light soil in each 5-inch pot and stand the pots in a cold frame.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seed Saving.—It is difficult not to believe that seeds of doubtful germinating power have been distributed this year, the reports of such being the case emanating from so many quarters. I am saving a few seeds, and by the time this appears I hope to have harvested those of Celery, Parsnips, Scarlet Runners and Broad Beans. Tomatoes have been more true to character than last year, but it may be worth while to keep characteristic fruits of the different varieties of these. The largest cropping variety of the year is Recruit, and the finest fruits the produce of Veal's Leader. A selection of the latter I had given me from two sources.

Potatoes have been wonderful. Dunnottar Castle is spoken of very highly as an early, and Express and Midlothian Early were ready in quantity at the end of June. I have grown King George V. for some years as a second-early, but this year the crop has been less good than in former years, probably because the stock has been grown too long on the same ground. Arran Chief and Golden Wonder are the two popular late varieties, and last year's tubers of both were perfectly good eating well into July, thus overlapping the supply of earlies. All the varieties named are of first-rate table quality, and few small tubers are usually produced in proportion to the large.

Spinach.—The latest-sown crop should be thinned when the plants are quite small, giving them full space to develop a large leafage. Should there be any blanks, sow a few seeds to fill these at once, and the resulting plants will overtake the others in time. Keep the soil in the interspaces deeply hoed, using a draw hoe for this purpose, which stirs the soil to a depth of 4 inches with ease. Once the plants are well established, cover the ground with a thick dressing of soot, which is valuable alike as a manure and a fungicide.

Cabbage.—Take an opportunity to get the ground prepared for the Spring Cabbage crop. Last year ours were planted without much preparation, and before winter were dressed with poultry manure, deeply hoed into the ground. But that was a method not to be recommended as a practice, and if the ground can now be very deeply dug and a thick dressing of rotted manure applied, the results will certainly repay the extra labour.

The Flower Garden.

Cuttings.—It is not well to delay securing cuttings of such things as Ageratum, Koniga, Heliotrope, Paris Daisies, Calceolaria amplexicaulis and Pentstemons, leaving other Calceolarias, Violas, Gazanias and Chrysanthemums till later. None of these should ever be permitted to flag, and if the weather is hot when taking and working with them they should be kept moist, and after insertion in the cutting boxes watered and stood in cold frames closely matted for a time.

Shrubs.—The late-flowering kinds, such as Philadelphus Avalanche and Deutzia Wellsiana, should be examined, the old growths which have flowered be cut out, and weakly ones of the current year excised. Some experience is required to know just when and how to prune the great number of beautiful shrubs available for garden decoration, but the same principles that govern fruit culture should be followed—plenty of space for the shoots to ripen, and no shoots but those of the best quality left on the plants.

Narcissi.—It is quite time to replant bulbs, if it has not already been done. Where quantities are forced there is always a surplus to spare for wild gardening, and sometimes there is a difficulty to dispose of them where a lot of ground is already occupied. I do not much favour the system of scooping out a hole large enough to hold a bulb; this in some soils causes water to flow in from all round about. I have never found plants to do badly which were planted by means of a spade pressed deep below the turf and the handle pressed down so that the soil was loosened in doing so, the bulbs to the number of two to four being placed in position before withdrawing the tool. By careful management a large breadth of ground can be loosened fairly equally by this means, and the Narcissi arranged in as natural a manner as one's proclivities permit.

Crown Imperials.—Where seedlings of these have been grown in beds to a size large enough to flower, the tubers should now be lifted and replanted where their decorative value, which is greater than most people seem to realise, can be made the most of. They possess the valuable property of succeeding under the most unpromising conditions. You may set them in the middle of a late-flowering herbaceous plant, and there they will thrive and bloom with evidently as much satisfaction as if no other plant were near. Their glowing beauty is perhaps most obvious when grouped against a background of Yew or Box, Yew for preference. The stem of the current year leaves a hole in the tuber, and this in planting must always be upward. Plant to a depth of 3 inches. R. P. BROTHERSTON.

(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Cattleya Albion (C. O'Brieniana alba × C. Suzanne H. de Crom).—A lovely pure white practically intermediate between the parents. From Messrs. Armstrong and Brown, Tunbridge Wells.

Cattleya triumphans var. The Baron.—A very handsome form with golden sepals and petals, the pronounced crimson purple lip heavily reticulated with gold at the base. From Mr. J. E. shiel, The Dell Gardens, Englefield Green.

These were exhibited before the Royal Horticultural Society on August 14.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE ordinary fortnightly meeting of the society on August 14 may appropriately be described as a small meeting of varied interests, inasmuch as many phases of horticulture found moderate representation. Hardy flowers, however, as befitted the season of the year, predominated, and of these the Gladioli from Langport and the Phloxes from Hayward's Heath provided the greater displays. Apart from these were some fine Montbretias from Norwich; while Ferns, Carnations and Orchids also played a part. Fruit was represented by excellent Apples and Plums from Orpington. Messrs. Dobbie contributed a grand lot of Potatoes, and Mr. Lawson (Cannell and Sons) very fine Tomatoes. Few novelties received recognition.

HARDY FLOWERS.

From Hayward's Heath Mr. James Box sent a rich collection of Phloxes, as good as could be desired considering the wet immediately preceding the show. From an extensive gathering we selected Elizabeth Campbell (lovely salmon), The Queen (white and lilac), Antonin Mercie (palest violet and white), Le Mahdi (violet—an indispensable), G. A. Strohlein (orange scarlet), Fiancée and Antonin Buchner (white), Violetta, Asia (rosy salmon), and Baron von Dedem (orange scarlet). Other plants of interest were Rudbeckia Herbstone, Polygonum amplexicaule, Thalictrum dipterocarpum, and Aconitum Sparke's Variety, which is of intense indigo colour.

Mr. W. Wells, jun., Merstham, showed vases of the new salmon-coloured Phlox Aubrey Alder, a very beautiful variety.

Sydney Morris, Esq., Earlham Hall, Norwich (gardener, Mr. G. Henley) contributed three very fine Montbretias, viz., Queen Mary, an almost circular flower with fine sprays; Queen Adelaide, handsome reddish crimson; and Tangerine, pale orange with yellow centre.

The Alder River Nursery, Iver Heath, had a delightful grouping of Lilium Henryi fronting a background of dark-leaved Acers, together with such interesting subjects as Lycoris squamigera, Coriaria japonica (well fruited), Clintonia Andrewsiana (with large blackish fruits), Crinum Powelli album, Cornus canadensis and others. The Lilies, however, were the main feature of an attractive group.

Mr. G. Reuthe, Keston, Kent, showed charming gatherings of Berberidopsis corallina, Eucryphia pinnatifolia, the rare Feijoa Sellowiana, whose blood crimson anthers and white petals are in striking contrast; Tricuspidaria lanceolata, and Desfontainea spinosa among many shrubby things; while among alpines Gentiana Przewalski and G. septemfida were very beautiful. Astilbe simplicifolia and Erica cinerea atrorubens were also good.

GLADIOLI.

A full-length table of these from Messrs. James Kelway and Son, Langport, though not of the same high excellence that we recall in normal times or in seasons better suited to these plants, afforded, notwithstanding, a rich diversified display, while materially assisting the show from the spectacular standpoint. The "Lang-Prim"—primulinus—hybrids were very prominent, Golden Girl, Ghost (greenish yellow), Josephine Kelway and Mrs. Crane (rosy) being some of them. Of large-flowered sorts, Princess Mary of Wales (white and pink), Wearne Wyche (salmon scarlet and yellow), Orby (crimson), Princess Patricia (salmon), Melton (purplish mauve), J. W. Kelway (crimson scarlet) and Lady Constance Combe (yellow, striped red) were all beautiful. About 120 vases, three spikes of each, were staged.

GREENHOUSE PLANTS AND FLOWERS.

Of considerable interest here were the specimens brought by Mr. H. J. Elwes, Colesborne, a series of Crinums including C. Moorei (very fine form), C. M. platypetalum and C. M. album. Hedychium gracile (white), H. coccineum (very handsome) and H. Gardnerianum (yellowish) were also noted.

Messrs. Allwood Brothers, Hayward's Heath, staged a good group of Carnations, Benora, Circe, Destiny, Bishton Wonder and Mrs. C. W. Ward (cerise) being notable sorts.

In a capital lot of Ferns from Messrs. H. B. May and Sons, Edmonton, Polypodium Mayi, Adiantum Veitchii, Lastrea erythrosora and many Nephrolepises were shown; also such hardy sorts as Polypodium vulgare semilacerum, P. v. pulcherrimum, P. v. cambricum Barrowii and P. v. c. Prestonii, among others. The Fern which attracted everybody, however, was the grand specimen of Athyrium Filix-fœmina Clarissima from Mr. W. B. Cranfield, Enfield Chase. Its fronds were about 4 feet long, and 30 inches broad at the widest part. The finely grown example was the embodiment of grace and beauty.

SHRUBS.

Among the more interesting of these from Messrs. J. Cheal and Sons were the white-flowered Clethra paniculata, Lonicera Heckrottii, Potentilla Friedrichsonii (soft yellow in colour), Euonymus nanus (very pretty in fruit), Berberis dictyophylla and Cercidiphyllum japonicum. Hardy Heaths were very good, Erica vagans pyramidalis alba being one of the best. Of a series of the Crawley Star Dahlias, the pink-flowered Ifield Star was one of the most effective.

FRUIT AND VEGETABLES.

An exhibit of twenty baskets of early and second-early Potatoes from Messrs. Dobbie and Co., Edinburgh, represented magnificent produce throughout, and was much admired. A select few were Dobbie's Favourite, Midlothian Early, Witch Hill, which is practically a first-early, white-fleshed counterpart of the first; St. Cuthbert, second-early, true Ashleaf type, and a great cropper; Duke of York; Abingdon, red kidney; and America, a first-early round, short-topped variety that should prove invaluable to large and small growers alike. A silver-gilt Banksian medal was awarded.

Mr. H. Close, Littlecroft, Orpington, had a small, fresh-looking exhibit of Apples and Plums. Apple Beauty of Bath was in every way excellent; Mr. Gladstone, Red Quarrenden, Lane's Prince Albert, The Queen and others were noted. Of Plums, Belle de Paris, a small fruit of almost Gage-like flavour, was excellent. The Czar, a fine culinary sort, and Rivers' Early Prolific were also well shown. Many fruiting branches of Magnum Bonum and The Czar bore testimony to their abundant cropping qualities.

Messrs. H. Cannell and Sons, Eynsford (Mr. J. Lawson, manager), staged the very attractive looking Tomato Lawson's Favourite, ideal in size and colour. Seedling Apples of promise were also from the same source.

ORCHIDS.

Messrs. Armstrong and Brown, Tunbridge Wells, staged many good things, none more beautiful, perhaps, than the rose, gold and crimson Cattleya Lord Rothschild magnifica and C. L. R. delicata. Both were charming. Lælio-Cattleya C. Woodhams, Odontiodas in variety, Ornithidium coccinea and the fragrant Lælio-Cattleya Rhemus were others of note.

Messrs. Charlesworth and Co., Hayward's Heath, contributed a delightful series of Lælio-Cattleya Appam, with sepals from deep red to golden and mostly showing C. Dowiana influence in the lip. There were some half-dozen of them. Cattleya Harold var. Hesta and Odontoglossum Rolfeæ were noted.

A single specimen of the gloriously beautiful Brasso-Cattleya Ilene was shown by Messrs. Flory and Black, Slough. The sepals are rich pink; the lip, finely goffered and fringed, has a yellow base.

Messrs. Sander and Sons, St. Albans, contributed Cattleya Saturn (white), Cypripedium J. H. Veitch, Lælio-Cattleya Mauretania and Brasso-Cattleya Rex, among others.

SCOTTISH HORTICULTURAL ASSOCIATION.

THE monthly meeting of the Scottish Horticultural Association was held in the Hall, 5, St. Andrew Square, Edinburgh, on August 7. The president, Mr. John Phillips, Granton Road Nurseries, Edinburgh, occupied the chair. Messrs. Dobbie and Co., Edinburgh, exhibited Hybrid Tea Roses and a collection of Radishes of the most improved types. Mr. F. Baillie, Eden Gardens, Liberton, exhibited varieties of Chrysanthemum maximum. The paper of the evening was read by the secretary, Mr. A. D. Richardson, in the absence of the author, Mr. J. Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop. The subject was "Vegetable-Growing for Present-Day Requirements." Mr. Gibson's paper was an admirable contribution in view of the present conditions, and dealt in detail with the methods necessary to secure the best crops of vegetables under the conditions due to shortage of labour and other drawbacks under which gardeners are at present laid. As Mr. Gibson remarked, the war has revolutionised the methods of cultivation, and the full practical details he gave cannot but prove most helpful to all gardeners who have to maintain the supply. Mr. Gibson was warmly thanked for his paper.

The Late Mr. Charles Thomas Druery.

Born May 25, 1843; Died August 8, 1917.

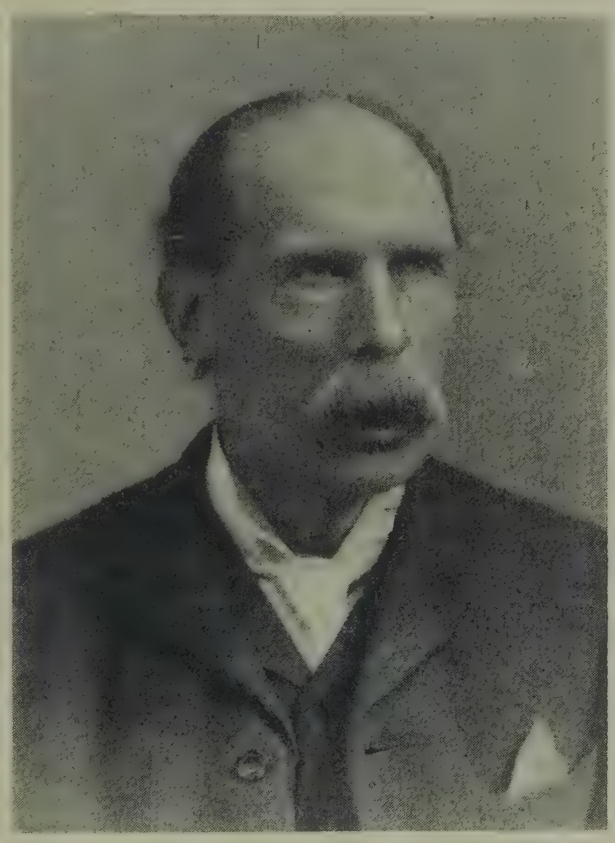
IT is many years since kindred horticultural interests brought me in contact with the subject of this appreciation, an acquaintance which ripened into a most sincere friendship, and many are the happy days we have enjoyed together in the lanes of Devon and Dorset, and in the Lake District and Scottish hills.

By profession a translator of languages, the deceased gentleman was interested in various business enterprises which enabled him to travel extensively in Central Europe and in the East, and the relation of his experiences was at once highly interesting and amusing. He was unusually well informed upon a variety of subjects and widely read. His favourite authors were Shakespeare, Darwin and Kipling, but scientific subjects appealed to him with greater force.

It was not until the later seventies that he took up the cultivation of the varieties of British Ferns, and it will probably be by his writings on this subject that he will be best remembered His three works on British Ferns and their varieties, viz., "Choice British Ferns," published in 1891; "Book of British Ferns," published in 1903; and "British Ferns and Their Varieties," published in 1910, are standard authorities, and earned for him a world-wide reputation.

His enthusiasm in the cult led him to cross swords with botanists, who regarded even thoroughbred varieties as mere monstrosities; but his achievements in the creation of the superbum section in Athyrium Filix-fœmina and the gracillimum types in Polystichum aculeatum, most of which have received recognition at the hands of the Royal Horticultural Society (one of which, the well-known "P. D.," was accepted by Her late Majesty Queen Victoria for a place of honour in the gardens at Windsor), marked a distinct advance in this branch of horticulture, and which example is being followed by most of his fellow enthusiasts. Contemporary with most of the older school of Fern hunters and raisers, his experience and knowledge of the subject was unique.

His discovery of the phenomenon of aposphory in Athyrium Filix-fœmina var. Clarissima (a



THE LATE C. T. DRUERY, V.M.H.

division of the original plant which was exhibited by me at the Drill Hall on August 14) secured his recognition at the hands of some of the foremost botanists and scientists.

He was of a most kindly and generous disposition, and invariably distributed among his brother enthusiasts divisions or spores of any varieties considered worthy of recognition, believing, as is the case, that by this means alone can their preservation be ensured.

For many years he was a member of the floral and scientific committees of the Royal Horticultural Society, and was among the first sixty to be awarded the Victoria Medal of Honour in Horticulture. He was one of the founders and a member of the committee of the Horticultural Club, a member of the Urban Club, and a Fellow of the Linnean Society, and his nimble wit and merry jest will long be missed at the social gatherings of these institutions.

It was largely owing to his enthusiastic advocacy on the subject, both by correspondence and in the Press, that the British Pteridological Society assumed its present proportions, of which until the time of his death he acted as secretary. He was founder and editor of the *British Fern Gazette*, published by the society. His contributions to the horticultural and general Press extended over a long period of years and, being an accomplished draughtsman, his books and writings were illustrated by his own hands.

By his death the Royal Horticultural Society lose the services of a keen and critical authority on pteridological subjects. I, personally, mourn the loss of an old and valued friend, while the world of horticulture is the poorer for his "going West."

His remains were laid to rest in Acton New Cemetery (where his wife, who pre-deceased him by some years, was buried) on the 11th inst. in the presence of those relations and friends who were able to attend, while floral tributes received from the societies and institutions with which he was associated testified to the universal respect and esteem in which he was held.

While his death creates a gap which no one can fill, it is some source of consolation that his entire collection of British Ferns and numerous notes and writings on the subject have passed into my possession, which will, I hope, enable me to continue the work he had followed with such enthusiasm and success during the greater part of his life.

W. B. CRANFIELD.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

VIOLETS IN FRAME (*D. P. B.*).—If you wish for Violets in winter and early spring you should procure well-rooted plants in March, planting them 1 foot apart in a fairly open position in well-cultivated ground. These by September, if all runner growth is discouraged, would form good clumps, and may then be lifted with a ball of earth and replanted fairly closely together in the frame. Summer cultivation in the frame would not lead to success unless the lights could be entirely removed, the aim of the cultivator being to secure firm, well-matured crowns that are sure to flower at the time stated above. September-planted runners would give you no winter blooms at all, though if the plants were strong they may give a few in late spring. You could, of course, purchase flowering clumps in September and put them into the frame direct, propagating from them for future supplies. The summer cultivation of the Violet consists of frequent hoeing of the soil, watering in dry weather, and discouraging all runner growth as it appears. Dusting the plants with soot and syringing with soot-water will do much to keep red spider—a dreaded pest—at bay. The plants may also be watered with soot-water. All watering should preferably be done in the evening. Wellsiana is a free-flowering single of medium size. La France is one of the handsomest of single-flowered sorts with a very long stem.

HERBACEOUS BORDERS (*Hampshire Sandhill*).—You preclude our giving you a helpful reply by omitting to give the size of the borders and the height of the wall. If you will send us these we will do our best to help you. The coming weeks would be suitable for carrying out the work. The popular names for the plants will hardly assist you, since in large genera—Phlox, Delphinium (Larkspur) and Aster (Michaelmas Daisy)—there are several varieties of each that it would be desirable to plant. However, we will do what we can to assist you. If the borders are old or long neglected, they had better be trenched and manured prior to planting. No manure is equal to stable manure for the purpose, though, in conjunction with trenching and liming, Wakeley's Hop Manure or Native Guano might be used advantageously.

KITCHEN GARDEN.

PEAS DISEASED AND SECOND GROWTH ON BROAD BEANS (*J. F. H. R.*).—Your Peas are suffering from an attack of Pea rust (Uromyces appendiculatus var. Pisi), a fungoid disease. Plants attacked by this rust should be burnt as soon as possible in order to prevent the disease from spreading. The position of the spores of the disease in the tissues of the plants renders the destruction of the pest hopeless without at the same time destroying the plants. The second growth of Broad Beans is not uncommon. No useful results follow this growth.

SCARLET RUNNERS NOT SETTING (*J. E.*).—It is not uncommon for Scarlet Runners to cast off their first flowers, especially in extra dry and warm weather. The best thing you can do is to keep them well watered with weak manure-water, and also give the soil over their roots a top dressing of short, well-decayed manure, say 3 inches deep. The flowers should then set all right. Your soil is well drained, of course. Young Black Currant trees not bearing too well.—If you have it to spare, give them

also an occasional good soaking of manure-water during summer and early autumn, and in the autumn give the soil a scattering of bone-meal, digging it in 3 inches or 4 inches deep.

BUTTER BEANS, CELERIAC AND POTATOES (*H. B.*).—The Beans are attacked by the fungus Colletotrichum Lindemuthianum. It is too late to do anything now to prevent the spread except to remove and burn all affected plants, which should be done promptly. It would be unwise to save seed from affected plants. Celeriac cannot be treated in the way you suggest, for that would result in the withdrawal of the food from the root to the leaf-stalks, thus rendering the root useless and giving only indifferent Celery. We fear but poor results will be obtained if the Potatoes have exhausted themselves by growing very long stems, but perhaps if the latter be retained and planted with the old tubers (being buried in the furrow) something may be done to help the plants along.

TUBERS ON HAULM OF POTATOES (*A. W. S.*).—Some pest, possibly wireworm, has damaged the Potato stems near the base, and this has cut off the passage of the food made in the leaves on its way to the lower parts of the plant. All the food made in the plant is produced in the leaves, and that made in excess of the immediate requirements for growth is sent down, in the case of the Potato, to be stored in underground buds. If the passage downwards is interfered with, the plant has to deposit it somewhere, and buds on the aerial part of the plant are made the receptacle for it, so that tubers develop above ground in the way yours have.

INJURY TO ONIONS (*Dorset*).—Your plants have doubtless been attacked by the Onion maggot, the grub of a fly known scientifically as Phorbia Cepæ. Your best plan will be to sow during the present week the Onions you wish to grow for next year's crop, and transplant them from the drills in which they are sown (outdoors, of course) next February or March into their permanent quarters. So treated, Onions are rarely attacked by the fly. As an additional measure of protection, the rows should have sand which has been damped with paraffin dusted along them in May next, to be renewed at weekly intervals for a few weeks while the fly is about.

A CURIOUS BROAD BEAN (*L. T.*).—The Beans are, we think, the right way round, but either the pod has become twisted over during development or the carpel from which it was formed was not the one which usually develops of the five which are theoretically possible in the flower. That this kind of thing is very unusual is probably true; indeed, we do not remember to have noticed it before; but that it is only once in seven years that it occurs is no more likely than that regular times are, so to speak, set aside for the appearance of other unusual things. No doubt because they are unusual a legend has grown up around them which sets a time for their appearance, but which is based upon too few and restricted observations to establish a rule which would satisfy science.

TREES AND SHRUBS.

THE FRUITING OF XANTHOCERAS SORBIFOLIA.—I have a plant of Xanthoceras sorbifolia. It has this year flowered well, and has also fruited, having two bunches of fruit, each bunch containing five large Walnut-like fruits. Could you tell me if this is usual, also if the fruits are edible?—(Mrs.) E. L. WARREN, *Rothesay, near Midhurst, Sussex.* [Xanthoceras sorbifolia does not fruit with any great regularity in this country, though a few fruits are borne occasionally. The fruits are not edible.—ED.]

HOLLIES FOR A CARRIAGE DRIVE (*A. H. R.*).—Green-leaved Hollies ought to be used in preference to varieties with variegated leaves to border a carriage drive through a wood, and for preference the common Holly, Ilex Aquifolium, would be more in keeping than any other kind, providing there is no attempt at gardening in the wood. If, however, a certain amount of gardening is done about the borders of the drive, one of the large-leaved Hollies, such as I. altaclarensis or I. maderensis, could be planted. As a rule, for such a purpose, however, freely grown common Hollies cannot be beaten. A variety of kinds could be used, but such are inclined to grow irregularly, and the effect is not so good as when one single kind is planted. The following sorts can be tried if different varieties are required: I. Aquifolium (red and yellow fruited varieties), I. altaclarensis, I. maderensis, I. Wilsonii, I. whittingtonensis, I. donningtonensis, I. Smithiana, I. camelliæfolia, I. Shepherdii and I. Hendersonii. Plants may be obtained any time in September, but if they cannot be procured before the end of the month it would be advisable to defer planting until next May unless a really good ball of soil can be moved with the plants. Even then it would not be advisable to move them later than the middle of October. September is, however, an excellent month for moving Hollies, particularly if the weather is inclined to be damp On no account ought Hollies to be clipped into a formal shape.

FRUIT GARDEN.

EARLY PEARS FOR CLAY SOILS (*Maida Vale*).—If you must have first-early Pears, the selection is confined to Beurré Giffard and Jargonelle. Doyenné d'Eté is sweet, but so small, and is ripe for so short a time. Jargonelle, we think, is the best first-early Pear we have, but it is a strong grower and apt to make wood growth instead of flower-buds while the tree is young, and for that reason is a long time in coming into bearing. But if the young trees are lifted and root-pruned the second year after planting, this will tend to arrest gross growth and induce fertility. If you plant this, see that the tree is worked on the dwarfing Quince stock. Let the clay soil be deeply trenched and an abundance of opening material, such as old mortar rubble and brick-ends, broken small, be worked into it at the same time; also add a liberal quantity of lime, some turfy loam of a light texture, and a sprinkling of bone-dust. Be careful not to plant the trees deeply. The top roots should be within 4 inches of the surface when the planting is finished. Lay the soil to and about the roots carefully with the hands, and when planting is finished tread the soil firmly. Beurré Giffard is an excellent and handsome Pear, and a constant and fertile bearer of good flavour, but is rather a weak grower. Williams' Bon Chrétien is not a first-early Pear, but is perhaps the best of our early Pears in its season, which is September.

RUST ON BLACK CURRANT BUSHES (*Mrs. M.-C.*).—The fungus on the Black Currant leaf is one that seems to be becoming increasingly common. It is called Melampsora salicis viminalis, and is one of those curious species that pass the autumn and winter on the leaves of a plant altogether different from the host on which they grow in summer. In this case the alternate host is the Salix viminalis, a common Willow in many parts of the country. Wherever the two grow in proximity, the rust may be expected to occur upon and more or less damage the Black Currant. Nothing can usefully be done this year, but possibly spraying with Bordeaux mixture or Burgundy mixture might help to ward off the attack if done in May or early in June next year. For the scale insects the best treatment will be, after the old wood has been cut out of the bushes in winter, to spray with caustic wash made by dissolving 1lb. of caustic soda in ten gallons of water.

PRUNING CRAB APPLE AND MOUNTAIN ASH TREES (*Maida Vale*).—Do not summer prune; they are better left alone.

ROSE GARDEN.

ROSES FOR PERGOLA (*R. F. C.*).—The proposed arrangement of poles seems to be quite right. Do not make the cross-pieces too heavy, or you will find in after years you will have blossom on top only, unless, of course, you desire a shaded walk. We prefer to have the uprights well clothed with growths and blossom. A few light wires placed across are usually sufficient for a few best growths, which will blossom all the better for not being crowded, and you can always cut away superfluous growths. We certainly advise Oak posts to Larch, even if not quite straight, for the defect in this respect is soon hidden from view. As to your list, we should eliminate Mrs. Walsh and Leuchtstern, and add Source d'Or, Silver Moon, Edgar Andrieu or Chatillon Rambler. As to planting some of the Climbing Hybrid Teas, you will be well advised to do this. Such kinds as Climbing Chatenay, Lemon Pillar, Climbing Sunburst, Climbing Mélanie Soupert and Climbing Paul Ledé would be splendid and give you a good continuous supply of blossom. Climbing Fireflame would be too tender, probably, and Colcestria we would not recommend, These Climbing Hybrid Teas should not be pruned the first year save to remove unripe ends.

MISCELLANEOUS.

THE MAKING OF POT-POURRI.—I was much interested in Miss Jekyll's article in THE GARDEN of August 11, but would be very glad to know two further details, if possible. Miss Jekyll gives quantities for some of the ingredients used, but does not mention how many Seville Oranges are necessary for the amount of pot-pourri she makes (224lb.). Also it would be useful to know how many jars 22 inches high by 9 inches (inside diameter) have to be filled with Rose petals to produce the quantity she mentions. I cannot see how, without these two items, one could with accuracy follow her prescription, either for a similar quantity to that which she herself makes or in the event of reducing ingredients proportionately for the purpose of making a smaller quantity. Evidently considerable trouble is entailed in the making of pot-pourri, and experimenting would be slow work.—J. MONRO COATS. [We forwarded this enquiry to Miss Jekyll, who replies: "In answer to your correspondent I should use anything from twenty-four to thirty-six Seville Oranges for the 224lb. of pot-pourri, but the quantity of this, as well as of the other ingredients that have to be partly dried and salted, can be entirely variable, and though the Orange peel is a very desirable addition, if it should not be convenient to prepare it, it will be quite good pot-pourri without. We have two of the cylindrical jars 22 inches high. The quantity of Rose petals that can be secured in good condition is also so variable that some years not one is full, while this year we have nearly filled the two, and the supply of Sweet Geranium will be short. It is not so much the proportion of the main materials that matters as having the right things and securing them in good condition."—ED.]

SUGAR BEET.—With reference to your reply in your issue of August 11, to "W. S. C." (page 328), would you please tell me how to extract the syrup after boiling for seven hours?—T. C. K. [Add sufficient water to cover the Beet before boiling, and boil until soft, adding water once during boiling to maintain a covering of the roots. The liquid residue after boiling is the syrup.—ED.]

CRAB APPLE JELLY.—I should be very glad to know if Crab Apples make good jelly, and if so, a good recipe for same. I have a great number of fruits of the Crab John Downie this year, and am anxious to make something with them.—REBECCA. [We sent your enquiry to "Anne Amateur," who replies as follows: "Crab Apples make one of the very choicest of fruit jellies. The following is a Kentish recipe kindly given by Mrs. 'Busy Bee.' Wipe the Apples clean; cut them up without peeling or coring them; put them in an earthenware crock, allowing one pint of water to two quarts of fruit; let them simmer (not boil) very gently for from three to four hours in a cool oven. The more gently they cook the clearer the jelly will be. Turn the pulp into a jelly-bag or a fine sieve, and press (not rub) the juice through with a wooden spoon or a saucer with a weight in it; do not rub the pulp through. Next boil the juice with one pound of sugar to one pint of juice. Boil quickly for from half to three-quarters of an hour, stirring continually to prevent burning. Test when cooked enough by dropping a few drops on a cold plate. If they set at once, it is sufficiently cooked. Pour through clear muslin into the jars, and do not tie down until quite cold. A little Lemon juice may be added for flavour, if liked, but is not necessary."—ED.]

RED CURRANTS WITH LARGE SEEDS (*J. C.*).—We think that the cause of the seeds being larger than usual is due to the hot and rather dry weather in May, causing the stones to form larger than usual at probably the expense of the flesh of the fruit. There is not a great deal of difference in the size of the stones of the various varieties of Red Currants. If you find them so next year, please send us a sample for comparison with others.

NAMES OF PLANTS.—*I. P. L.*—Rose Hiawatha.

Historic Firms of Great Britain and Ireland.—Messrs. Fawcett and Co. of 125, Strand, London, W.C.2., announce the preparation of a history of British commercial houses which have been established over 100 years, under the title: "Historic Firms of Great Britain and Ireland." They will be greatly obliged if firms coming under the scope of the publication will communicate with them giving the fullest possible particulars and stating the nature of the material available in the way of ancient prints and documents, portraits, &c., illustrative of the history of the house.

Currant Seabrook's Black.—We have received from Messrs. Seabrook and Sons, Chelmsford, a sample of late fruits of this already famous Black Currant. That it travels well, crops well, and is of excellent flavour everyone will agree; but the chief feature of Seabrook's Black is its remarkable power of resistance to the Currant pest only too well known as mite or big-bud. Practically all reports received from growers of this variety emphasise its freedom from mite. Those who have given up the cultivation of Black Currants owing to the mite pest should certainly give this variety a trial this autumn.

The Early Blooming Spencer Sweet Peas.—"The Sweet Pea trial grounds at Fordhook were a distinct surprise. It was the fifteenth day of June. No one in this locality has Sweet Peas in bloom outdoors. You say you have them? I do not doubt your word, but let me tell you they have been scarce in Philadelphia, where all the Sweet Peas from outdoors that are coming into the market are from cold frames. Here were Peas in full bloom, long rows of them, Peas that evidently had been in bloom for at least a month. This sight was the more surprising because I clearly remembered that on a previous visit, when the Burpees had a party at Fordhook at about this season of the year, the Sweet Peas were only just coming into flower. These Sweet Peas were early Spencer varieties. Practically nobody grows anything but Spencers now, but they were started in pots under glass. Here was something worth while. Sweet Peas are wanted in the Philadelphia cut flower market and probably in the markets of many other cities from May 15 to June 15. The early flowering varieties started in the greenhouse and transplanted outdoors, or grown in cold frames for the market requirements, and the Spencer varieties grown in the same way, are too late. They will not flower until after June 15, when the market commences to decline. Here, right in front of us, lay what the Sweet Pea growers of America want—early blooming Spencer Sweet Peas."—From the *Florists' Review*.

Vegetables in the City.—A wonderful show of fine vegetables may be seen in the window of a famous firm of seedsmen in London Wall. Such a unique and gratuitous exhibition of superexcellent produce in a public thoroughfare at the present time is worthy enterprise indeed, and should be a valuable object-lesson to every ambitious holder of an allotment.

*** *The Yearly Subscription to* THE GARDEN *is: Inland, 10s. 10d.; Foreign, 13s.*

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

THIS week I am writing a few lines on early laying, as several correspondents have raised important questions thereon.

February-Hatched Birds.—In the first place I will deal with the matter touched upon in a letter from Mrs. E. Parker of Cambridge. The following is an extract:

"Would you be good enough to tell what I should do about two White Wyandotte pullets which have begun to lay? One of them lays certainly *three* eggs in *four* days and the other has just begun—[July 31.—W. P.-O.]. They are very small eggs, and I am afraid if the pullets go on laying now the eggs will always be small."

There are, of course, many kinds of early layers, but here I am concerned with pullets that start to lay before they are matured. It is wise not to allow pullets of the heavy or sitting breeds to contribute to the egg-basket before they are seven months old, and those of the light or non-sitting kind till they are six months of age. This is made possible by my plan of March hatching for heavy breeds and April hatching for light ones. Pullets hatched in these months should be in lay by October or the first week in November, and they will then be fully matured if they have been judiciously handled since birth.

When Growth Stops.—The danger of allowing immature pullets to commence to lay is serious, because when laying starts, growth stops. The eggs from such pullets are small owing to their undeveloped egg-organs, and no matter how clever the feeding may be, the owner will not be able to increase the size of the eggs laid. The birds are therefore ruined, as even in their second year the eggs will be small and unmarketable, although they be a trifle larger than the "marbles" produced the first season. The breeder of fancy poultry has more trouble from his early laying than does the utility specialist. In order to get his birds ready for the summer and autumn shows he hatches out his stock in January and February and forces them along for all he is worth. By such forcing he is able to get size in his young birds, and that is the objective. This is so because at the summer shows the *large* inferior bird will invariably take the cup and the red ticket from the *small* superior one.

Avoid Force-Feeding.—Unfortunately, these force-feeding methods not only promote growth, but also bring the pullets on to lay. This is the drawback the exhibitor has to fight against. There is also another disadvantage the fancier has to contend with, in that these immature birds after laying but a few eggs undergo a "false" moult. The exhibitor does not desire this, and strives hard against the early laying of immature birds with its many dangers. In the case of Mrs. Parker's pullets we find the latter laying long before they are six months old, and while steps can be taken to prevent this, the methods recommended would have been more successful had they been put into operation earlier.

Reddening Up.—In handling growing pullets I am very particular as regards watching their headgear. When the latter commences to redden up, the owner from experience will be able to judge how long it will be before the pullets begin to contribute to the egg-basket. As the likely date of laying approaches, the head points take on a darker red hue, and any pullets that redden up too early must be carefully handled. If the owner suspects too early laying, he will be well advised to adopt a less forcing diet. Animal food can be withheld for a time, and upon enquiry it is often found that the too liberal use of animal food—fish-meal, meat-meal and the like—is the cause of the trouble. I might even go so far as to withhold the soft food entirely for a time, giving grain in its place. Grain will then be provided for both breakfast and tea, with greenery *ad lib.*

Change of Quarters.—If this did not seem to have the desired effect, I should remove the pullets to fresh quarters. This will invariably stop laying, as will the placing of the culprits with other pullets that are strangers. A few quarrels may perhaps ensue, but our object will have been attained. As a rule, the owners themselves are often to blame for early laying. In some cases I find that open nest-boxes are the cause of the trouble. It is very inadvisable to allow nest-boxes to remain in the house until the birds are almost due to lay. The presence of nests is bound to entice the pullets *out of curiosity* to enter them and scratch among the nesting material. The result is that the young birds grow accustomed to the boxes before it is time, and they suddenly take it into their heads to steal away and lay that "first" egg. The latter is always a source of pleasure to the owner, but if from an immature pullet it will bring disappointment.

Hens as Tutors.—Young stock readily learn things from older members. The mischievous little puppy, for instance, soon learns to behave itself if the mother is an obedient bitch. The young pullet, too, will readily catch the habit of laying if she sees older hens performing their duties. It is a good idea to run a hen that is in lay with each lot of pullets on the point of laying, and a plan that I have always recommended. It is, however, unwise to allow pullets to come to maturity quartered with adult hens that are laying, because they will learn the ins and outs of egg-production before the proper time arrives.

FEEDING THE CHICKS.

A lady student at work on Miss Lowry's progressive poultry farm at Whitwell, Herts.

Autumn Laying.—I am not against autumn laying so long as the pullets are well matured and are hatched at the proper time. A White Wyandotte pullet hatched in the last week of January could be in lay by some time in August, as could a White Leghorn pullet brought out in the last week of February. The size of the pullet and the way it has progressed since birth must, of course, also have a say in such matters. The immature autumn layer will lay a few eggs and then either moult or have a long rest till after Christmas. The matured early hatched pullet will lay in the autumn from, say, August until the cold weather sets in; then have a rest and lay again after Christmas. Provided the poultry-keeper makes arrangements to rear sufficient pullets of March and April hatching to provide him with full egg-baskets, he is quite at liberty to adopt earlier hatching to fill the "autumn" gap, when the adult layers are moulting and eggs are not over-plentiful, except perhaps in the preservative. But it is the fully matured pullet he should rely on to supply those autumn eggs.

Maturity.—No set time can be fixed for maturity, as it varies in individual birds. Again, it is quite natural to expect the heavy-weight pullets to take longer in coming to maturity than the light or non-sitting birds. That is why the former are hatched out earlier than the latter. There is no harm in early maturity going hand in hand with early laying, it being rather the immature pullet that we must prevent from commencing to lay too soon. Where from birth all chickens are grouped in sizes and re-grouped from time to time, the owner will be in a good position.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.2.*

PRINCIPLES THAT GOVERN POULTRY HOUSING

FULL egg-baskets depend quite as much on the housing of the layers as on other branches of management. I propose in a series of articles to deal with the common-sense principles of accommodation, and will commence with the flooring of poultry-houses.

Flooring of Houses.—Successful results can only be obtained where the layers are dryly housed under foot. The feet of a hen are very sensitive, and cold or damp feet readily "strike home" to the egg organs situated towards the rear of the bird. Concrete and cement floors have their advantages as regards cleanliness, since they can so easily be washed and brushed down. These materials are, however, cold to the hens' feet, and where adopted, with that object in view, they should be covered with a bottom layer of dry, fine sand, and over this there should be a top covering of ordinary litter. Floors of this description are expensive, but they are lasting, and when being flushed with water a little Izal fluid should be added to the latter. If a good depth of litter is used as the top-dressing, it will last for many months without needing changing. Cement and concrete floors must, I may add, stand on a dry foundation.

INTENSIVE HOUSE.

One of the "trap-nest" houses on Mr. G. B. Metcalfe's Pedigree Farm at Lechlade, Gloucestershire. The layers are trap-nested for size as well as number of eggs.

Wooden Floors.—Wooden floors are essential if the ground is of the heavy clay kind, and such flooring must be rendered damp-proof in all cases. The under part of the floor should be well tarred, while the upper part—inside the house—should be creosoted. If the latter is done it will prevent the droppings from permeating the wood, and at cleaning-time the brushing down of the floor can be facilitated by a sprinkling of fine sand over the surface. There are other methods of treating the upper part of the wooden floor, *i.e.*, within the house. The surface can be covered with rough roofing felt—nailed to the boards—and the whole smoothed over with a thin layer of cement and lime in equal parts. Another method is to tar the wooden boards and to brush over the whole a thick solution of cement and lime, renewing the coating each season. Raised floors have many advantages, and by placing the house off the ground on well-tarred brick or wooden supports a perfectly dry foundation is ensured. A great point in a raised floor is that a free current of air passes underneath the house and keeps the flooring and litter dry.

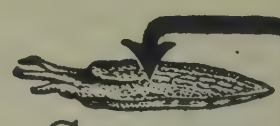
Discourage Rats.—No matter what trouble is entailed, steps should be taken to rid the poultry-yard of rats and such vermin. They not only carry disease to the fowls, but also run up the food bills by devouring the foodstuffs bought for the hens. I have many times traced outbreaks of disease in poultry flocks to the grains and meals being overrun by rats and mice; hence the importance of my notes. While certain precautions can be taken, the systematic clearing out of the vermin by means of traps and poison is to be strongly recommended. The food-house represents a splendid trapping-ground, and while all foodstuffs should be kept in bins the covers to the latter should be kept closed whenever the receptacles are not in use. As regards the flooring of the poultry house, if this is raised well off the ground on tarred railway sleepers, sufficient room can be allowed beneath the structure for a sharp little terrier to clear the ground of rats and mice. The match-boards used for the flooring should also be well braced together underneath by means of tarred battens. This is recommended to prevent grain from dropping through cracks in the timber, which would readily encourage vermin beneath the house. Rats do not like tar, and to prevent them from gnawing the wooden flooring the latter can, if desired, be covered with tarred wire-netting.

Earthen Floors.—Where earthen floors are adopted, steps should be taken to see that they are perfectly dry. Dropping-boards are essential with such floorings, and cleaning must be attended to very regularly. To obtain a dry foundation, the earth on which the house stands should be raised so that it is higher than the surrounding ground. Water will then drain from and not towards the house—a point to be remembered. Another plan to ensure dryness is to dig a trench (several inches wide and 1 foot deep) round the base of the house and fill it with creosote or tar. The poultry-keeper may experience trouble from rats when earthen floors are in use, and suitable precautions must be taken. Tarred wire-netting can, for instance, be sunk well below the ground to form a kind of bottom flooring, or round the house on the outside tarred wire-netting can be let deeply into the ground, and on the inside tarred bricks can be let into the earth against the walls to act as a further barrier. Yet another method is to dig a trench round the base of the house and fill it in with cement and broken bottles. The cement, too, can be carried a little up each side of the structure.

Tarred Clinkers:—A good flooring can be made with clinkers or broken bricks. Having tarred these and put them into position, smaller pieces should be scattered on top and the whole be dressed with tar and pitch until a nice level surface has been obtained. Such a flooring has very many advantages, in that it is durable, cheap, damp-proof, not cold to the hens' feet, and easily brushed over at cleaning-time. Brick floors should be avoided, as, in addition to being cold and damp, moisture from the droppings will permeate the crevices and throw back an unpleasant odour.

Choice of Floors.—While the flooring must be warm and damp-proof, with a view to the health of the birds and the egg-returns of the latter, there is also the question of litter. It is highly important that the scratching material should be kept perfectly dry, because in due course it will contain a certain quantity of dry excrement. It the latter becomes wet it will throw off poisonous acids, which will prove harmful to the birds. Again, the drier the flooring, the longer will the litter last without needing replenishing. For houses of the intensive type, raised wooden floors cannot be excelled, since it must be remembered that the birds occupy the structures for both roosting and exercising. Again, on the intensive system the layers are called upon during the winter months to spend most of their time inside the house. In all cases where the environment is in any way damp or the soil is heavy clay, raised wooden floors have my strong recommendation. It is useless to try to drain the soil or to take away the top layer of clay, half measures not proving successful. By far the quickest, cheapest and best method is to fit wooden floors to the houses and raise the structures off the ground.

Scratching Sheds.—As regards the flooring of scratching sheds which are constructed distinct from the roosting houses, choice must depend also on environment. If the soil is heavy or damp and not conducive to the best egg-returns, wooden flooring should be fitted to each scratching shed or shelter. It is more expensive to instal wooden floors from the view-point of initial cost, perhaps, but there are other things to consider. Wooden floors not only save in litter, but also promote increased returns in eggs. If, however, the site is dry, it will be quite in order to use an earthen floor for the scratching shed so long as steps are taken to prevent the rain from beating in.



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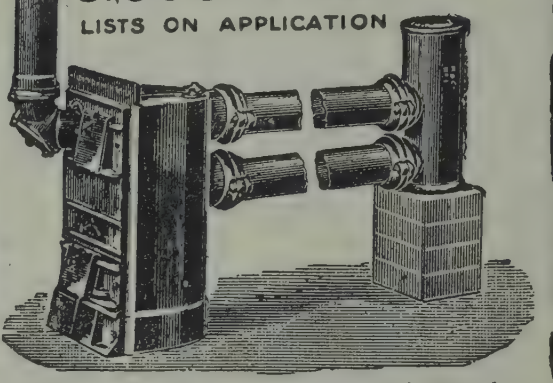

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FOR GARDEN, ORCHARD, WOODLAND
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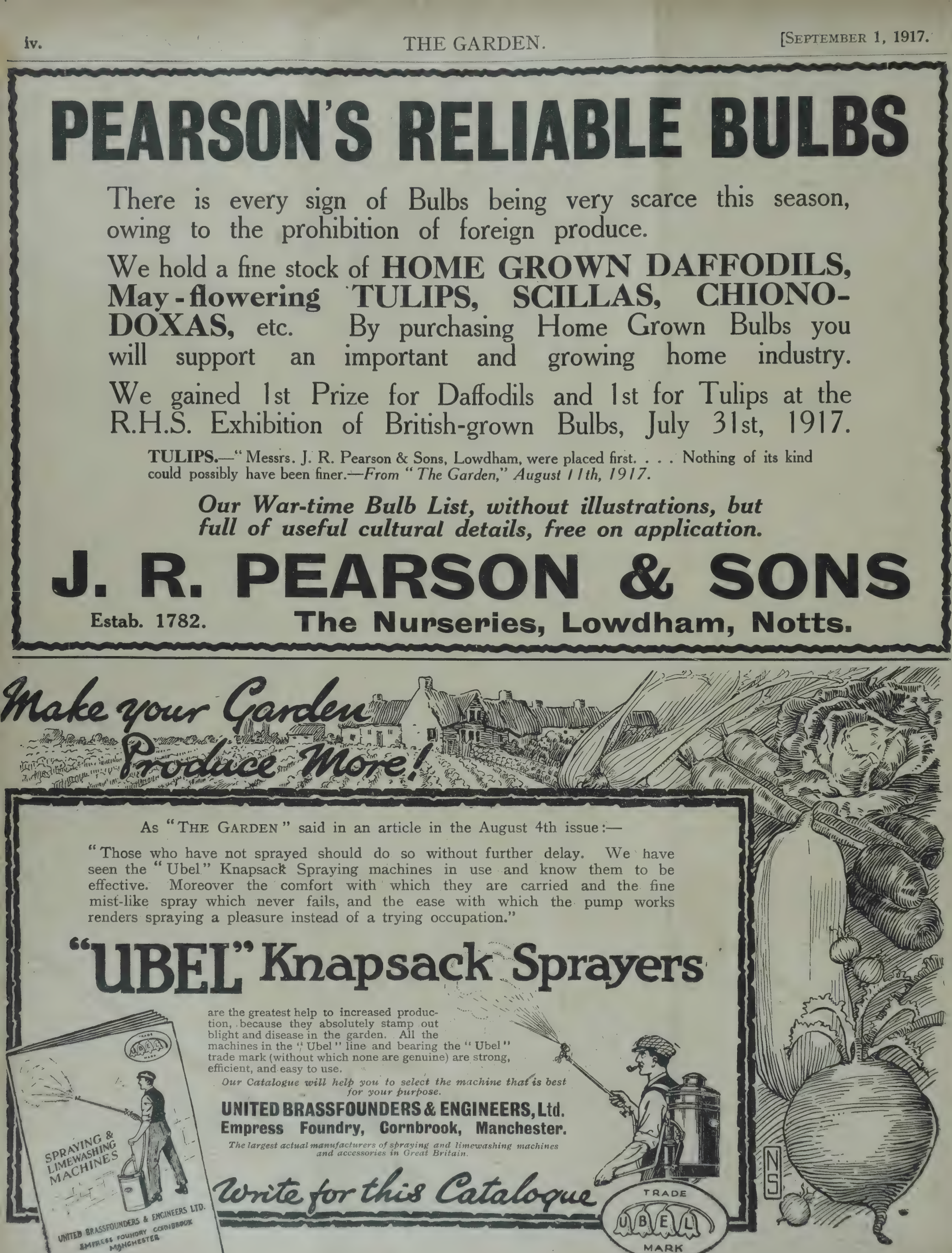

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TRADE UBEL MARK

THE GARDEN.

No. 2389.—Vol. LXXXI.] [September 1, 1917.

NOTES OF THE WEEK

So far as we know, Chinese Cabbage is a new vegetable to this country. A few days ago we saw it in frames at Aldenham, where it is being grown for the first time from seed sent from China. The plant somewhat resembles Lettuce in its growth, and we are not sure if it should be tied up like Cos Lettuce or whether it will form a heart like a Cabbage. The seed is like that of the Cabbage, and the raw leaf has a taste like Curly Kale. When cooked it is said to be of good flavour. Chinese Cabbage is claimed to be perfectly hardy, and it is recommended for sowing in August and September to stand the winter in open quarters.

Podophyllum Emodi.—This is one of the few hardy border plants whose chief attraction lies in their fruit. However, the generic name of Podophyllum was not suggested by the showy fruit, but by the form of the leaves. These are seven-parted, and are supposed to resemble the foot of some web-footed animal; hence the popular appellation Duck's-foot. The derivation is from *pous, podos*, a foot, and *phyllon*, a leaf. P. Emodi attains a height of 12 inches or more, and its edible, ellipsoid, bright red fruits, each about 3 inches in length, form an attractive feature in the hardy mixed border in autumn. P. peltatum, the May Apple or American Mandrake, is also an attractive border plant in summer.

St. Fiacre.—It is quite possible that a great many people do not know that gardeners have a patron saint. Fewer still know who that saint was; and, again, fewer still the day on which he was commemorated. The saint is St. Fiacre, who died at Breuil, near Paris, about A.D. 670; and the day of his commemoration is August 30. He is said to have been a native of Ireland and famous for his miraculous cures. We have been unable to trace the good man's connection with gardening, and can only hazard the suggestion that he must have been a herbalist and that he worked his cures through the medium of plants. We would be glad to be favoured with information about him. The Hôtel de St. Fiacre in Paris is said to have been the first place where hackney carriages were let out on hire; hence the French word for them is *fiacre*.

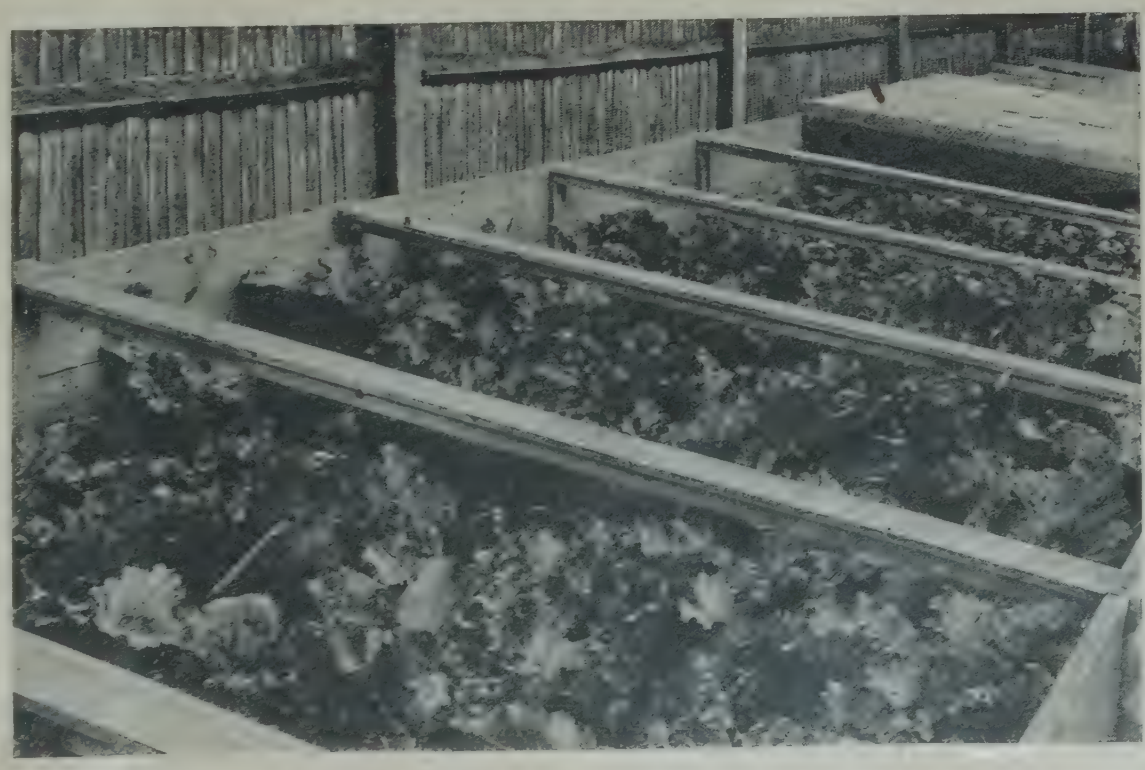
Tomato Mainerop.—What an excellent variety this is for outdoor culture, growing vigorously and producing huge quantities of highly coloured fruit large enough for any purpose with but a minimum of corrugations! In open-air culture with this variety, as with all others, so much depends upon the manner in which the plants are prepared for putting out.

The Beetroot as a Bedding Plant.—The Beetroot has been largely used in the flower-beds this year, and with very pleasing resuts, at Chewton Glen, near Christchurch, the beautiful residence of Major E. Tinker. Beetroot was planted in the beds at lodges and also in the formal garden near the mansion, as well as in beds on a gentle slope in front of a highly coloured Privet hedge. In each case, especially near the mansion, where old specimen Fuchsias and other plants in tubs were dotted about, the effect is most pleasing. There will be a fine stock of produce for storing, and the area that would have been taken up in the vegetable garden by Beetroot has been devoted to other kinds of vegetables.

Wintering Beetroot.—A firm, medium-sized Beetroot of a rich colour is the most preferable, and the flavour is best when the roots are taken fresh from the ground. They will not stand severe frost, and if left to take care of themselves in the open during the winter without some amount of protection being afforded they will certainly be seriously injured. To keep the roots healthy and crisp it is a good plan to lift the whole crop, select the best and most useful size, and lay them in a rather slanting position in trenches, exercising every care not to injure the roots more than possible during the process. First select a suitable position, open out a trench deep enough to hold the roots, and then place them side by side with the leaves intact and deep enough to bury the crowns about 2 inches beneath the surface. Cover the roots with soil taken from the next trench parallel to the first about a foot away, and continue till the whole is finished. In this way good Beetroot may be had till the early crop of the Egyptian variety is ready in spring. In severe weather protect with a little long litter, leaves, or anything that will prevent the frost from entering the soil. We have kept Beetroot through many winters, also Carrots, in excellent condition in this manner.

Scarlet Runners.—The crops of most varieties are exceptionally heavy this year. The flowers set freely from the very bottom of the plants, and since the heavy rains the plants have attained a great height. Last season the seed was very scarce and difficult to obtain at the last minute, so that saving a few of the best pods for seed should not be overlooked, and might prove very acceptable for the next year's crop. Prizewinner is, we find, one of the best for all purposes, and has become a great favourite with many. It was awarded a first-class certificate by the Royal Horticultural Society in 1892, so that it is not new. To assist the plants to maintain vigour and productiveness for a long period, remove the pods, with the exception of those required for seed, as fast as they become large enough, going over the rows three or four times weekly, or daily if desirable.

Ants and Lily Flowers.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Bowles showed buds of Lilium sulphureum from Mr. Fletcher of Aldwick Manor, Bognor, which had been damaged by ants in the same way as had those which came from Norwich recently. A further communication concerning the latter from Dr. C. A. P. Osburne, from whose garden they came, pointed out that the buds attacked in many cases failed to open properly, but split across one or more of the petals, while in others the edges of the petals were damaged. It would be of interest to learn whether other species besides regale and sulphureum are attacked by ants in this manner.



CHINESE CABBAGE IN A FRAME.

The Origin of the Loganberry.—It will be remembered that some doubt has been cast on the reputed origin of the Loganberry, and a report of it having been found wild in two localities in North America has led some to consider it a true species. Mr. E. A. Bunyard writes to say that he has recently been informed by a lady who knows the Loganberry well that when in 1904 she visited Jalapa in Mexico she was surprised to see the natives bringing in Loganberries from the hills, where they presumably grew wild. Has any reader heard of South America as a locality for this fruit?

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents).

THE FORMAL AND THE WILD GARDEN.

THE discussion which has been going on for some time in THE GARDEN with reference to the word "formal" in horticulture is interesting and useful. Mr. Robinson, one of whose utterances gave rise to the discussion, has done such undeniable service to horticulture that he can stand any amount of "ragging" from less eminent hands, even the thrusts of such a master of the pen and the camel's-hair brush as Mr. Engleheart. For myself, so far as I understand Mr. Robinson's views on gardening—and he has made them pretty plain—his tastes are for the most part my own. If I had as many acres of land as I have square yards, and a gardening staff in proportion, I should love to try to establish that divine harmony between Nature and Art which has always been, I should think, Mr. Robinson's ideal, possibly even his achievement. But having only a cottage garden of modest dimensions, I am obliged, for reasons of economy, to be a formalist of the most rigid type, as I believe Mr. Robinson himself might have been under similar conditions. If I permitted myself to find fault with Mr. Robinson, it would be not for what he says, but for the way he says it. His Ruskinesque exuberance of scorn does not always commend itself even to those who think Mr. Robinson a good gardener. Anyhow, it is too rich for my palate, which is of the simple order. I prefer the hard precision of Mr. Engleheart, who, among other things, charges Mr. Robinson with a lack of tolerance. I am afraid that this is Mr. Robinson's cardinal lack. Would that he could suffer architects and that sort of people with a little more gladness!

As to the term in question—"formal"—it appears to me that Mr. Dillistone is using the word incorrectly, or, if not incorrectly, so vaguely as to make his remarks pointless. He seems to think that "formal garden" means the garden proper, the garden near the house to which the gardening staff devotes its chief energies, as contrasted with the outlying uncultivated meadow or wood—the "wild garden"—into which those plants are dumped which are not required, or are thought undesirable, in the carefully tended precincts of the dwelling. If this is what Mr. Dillistone means by "formal garden," he is using the term in a different sense from that understood by Mr. Robinson or Mr. Engleheart. In "The English Flower Garden," tenth edition, page 14, I find the following passage printed in italics for special emphasis: "It is only where the plants of a garden are rigidly set out in geometrical design, as in carpet gardening and bedding out, that the term 'formal' is rightly applied." Quite so; but why then, if in a certain case the word is rightly applied, does Mr. Robinson rule it entirely out in respect of gardening? [We do not accept this definition; for instance, a water garden or a Rose garden may be formal, although the plants are not necessarily rigidly set out in geometrical design.—ED.]

The fact is that Mr. Robinson objects to the word because he objects to the thing. "Formal" designates in gardening a special style, the characteristic feature of which is a symmetry and balance of design, as though the plan were drawn with rule and compasses. The garden proper, which receives the chief attention of the gardening staff, need not, of course, be a garden of this kind. It may have no symmetry or regularity of line, and, though cunningly planned, no discoverable plan. Such a garden aims at the haphazard appearance of Nature, and is therefore said to be in the "natural" style. Most large gardens, however, are neither formal nor natural in this extreme sense, but occupy some position intermediate between the two poles.

As to "wild garden," this term may be useful to gardeners when they wish to indicate the waste spot where they put coarse overflow plants from the garden proper, or, as Mr. Dillistone would probably say, the formal garden. According to Mr. Robinson, it might be ten miles from the dwelling—some hedge, meadow, or ditch where you naturalise Anemones or Foxgloves. Gardeners are a powerful guild, powerful even over language; but they are not all the world, and I fancy that for some people "wild garden" may have a different meaning. Now and then, in some remote place—mountain, valley, or wood—you come upon a spot where lovely, and it may be rare, flowering plants and Ferns grow in perfection, grouped relatively to each other in gradations of form, mass and colour, precisely as an artist would, if he could, arrange them for his pleasure in his garden. When you chance on such a spot, you lift your hands in rapture and exclaim: "How Robinsonian!!! Sure none but the Master's hand could have achieved this precious confection!" But it is not so. Nature has worked the miracle entirely off her own bat. She is only simulating Mr. Robinson. She often does. Then it is she makes a "wild garden." Sometimes she even mimics our rockeries, but not often. As for her moraines, what a plagiarist this unblushing old Nature is!—SOMERSET.

COLOUR DESCRIPTION.

I QUITE agree with Mr. H. H. Warner (THE GARDEN, August 18) that the terms "cold purples" and "warm purples" are sufficient for those who understand them. Unfortunately, the vast majority of people do not. I agree also that this is in great measure due to a lack of colour education, and some time since in THE GARDEN I suggested that a colour education was as necessary as a musical one. I do not, however, think it is incorrect to separate the varying shades of purple into red and blue. If I understand the composition of purple aright, it is a combination of both red and blue, and if this is so it is surely no heresy to divide the varying shades into two groups in such a way that it is easy to determine which colour is predominant. Exactly at which point in the chromatic circle comes the shade that is called "purple" I should hesitate to say. Surely it comes between blue and red? I believe more people will understand the terms I used than they would those suggested by Mr. H. H. Warner.—GEORGE DILLISTONE.

ONE cannot but sympathise with many of Mr. H. H. Warner's comments on this subject in the issue of August 18. Assuredly there seems to be an extraordinary amount of confusion in some minds with regard to colour, particularly of certain flowers where the various shades of blue predominate—as in Campanulas, for instance. I cannot but think that a great deal of perplexity and much trouble and inconvenience might be avoided if the compilers of some of the catalogues were more particular in their descriptions of flowers in every instance. I am bound to confess I have at times been let down badly through relying too readily on catalogue descriptions of colour in flowers I had not been personally acquainted with, and as a consequence, after working out a plan of colour combination, finding the scheme utterly marred by the presence of some offensive colour subject, thereby causing much disappointment and loss of temper. One feels that such misleading descriptions, though I am confident they occur quite inadvertently, should not be possible. I cannot follow Mr. Warner, however, when he takes Mr. Dillistone to task for using the terms "blue purples" and "red purples" with reference to certain Irises in preference to "cold purples" and "warm purples." The latter may seem more artistic to some, but Mr. Dillistone's description conveys to my mind exactly what he intends to convey, and, indeed, precisely what they are. But I think it must also be acknowledged that many of these glorious subjects as regards colour are quite indescribable.—CECIL A. P. OSBURNE.

AN EASY METHOD OF DESTROYING WEEDS IN A LAWN.

INSTEAD of digging up Plantain, Dandelion, &c., and making a lot of holes in a lawn, get threepennyworth of sulphuric acid and a small glass medicine tube about a quarter of an inch in diameter and 8 inches long, such as is usually sold by chemists at 2d. each. Pour a little of the acid into a shallow saucer or receptacle, making a depth of about a quarter of an inch or so, and dip the end of the glass tube into it. The tube will retain just sufficient acid to kill one weed, which is done by touching the same with the tube, when immediately all the liquid falls out. If more acid is required in some cases where the weed is of larger growth, dip the glass tube into the bottle of acid until the right quantity is in the tube. Place the finger tightly on the top of the tube, and withdraw it. The acid will remain in the tube so long as the finger is kept tightly over the end, and will come out immediately the finger is removed. In this way just the right quantity can be obtained. By this method weeds can be killed quickly and effectively, and holes avoided.—R. H. KIPPING.

POTATO ECLIPSE.

THIS first-early has proved a splendid doer in our light, shaly loam, this year averaging 200lb. for every peck (14lb.) planted. The tubers are remarkably white and clean skinned, the eyes hardly perceptible, and shape and size all that could be desired. It is a good cooker of excellent flavour, even when quite young, and free from soapiness. Eclipse is also a grand keeper, being equal in this respect to many maincrop varieties and much superior to some. A patch of Ninety-fold grown under precisely similar conditions (both Scotch seed) yielded an equally good weight, but while this Potato is a fine cropper for market purposes, the tubers are too large for the home table as earlies.—A. T. JOHNSON, *North Wales*.

SCARLET RUNNERS.

MAY I suggest to all gourmets, especially to those who grow their own vegetables, to try imagining there is no possibility of using a steel knife in the kitchen—in fact, it is truly a murderous weapon where vegetables are concerned. Let them pull off the hard stalk of their Runner Beans (young Beans, of course—not those more suitable for trench timbers) and steam or boil them with a little salt, but no soda. They will never again even look at the horrid mess of steel-tasting splinters called "Beans." Even when cold their delicate flavour remains, and a more delicious salad could not be imagined either with or without herbs and other vegetables. By "herbs" I do not mean Parsley, which seems the highest ideal of the untrained cook, but every herb that is *not* Parsley. May I give the suggestion of every much-travelled gourmet? "Never use soda, never boil if you can *steam*, never remove either skin or pips of anything." You would not boil your fowls skinless, minus liver and gizzard, nor as a daily food boil your eggs without shells, nor serve home-made bread without the crust.—(Mrs.) B. M.-C.

COOKING SCARLET RUNNER SEEDS.

I HAVE enjoyed ripe Beans of Scarlet Runners, well boiled, for years, and always use up the superfluous seed in this way.—J. F. H., *South Devon.* [We commend this practice to others.—ED.]

MELIOSMA CUNEIFOLIA.

SEEING the note in your issue of August 11 on Meliosma cuneifolia, I am sending you a photograph of this shrub (taken in my garden at Strode, Ermington, South Devon, about a fortnight ago) in case you would care to reproduce it. It has been planted three or four years and is apparently quite hardy, as it was untouched last winter. It did not flower till this year.—H. G. HAWKER (Captain, Devon Regiment).

RIPENED WOOD AND HEAVY FRUIT CROPS.

I READ with interest the article on the above subject which appeared in THE GARDEN a short time ago, and I agree with your correspondent that we are too prone to accept this and that theory without ever trying to prove it by experiment. I expect Mr. C. Blair, like many others, had it instilled into him by those under whom he served that well-ripened wood was the all-powerful factor in the production of fruit, whereas it is only one of the many conditions to which a tree attains, and which, acting and reacting on each other, produce fertility. Fertility, like its half-brother sterility, is the effect of many causes which seem to be peculiarly sensitive to any and every condition, both internal and external, that can in any way affect the tree. Fruit-growers have ever looked upon three details as being essential if there is to be a good fruit crop. First, there must be a good root system close to the surface; secondly, the wood must be well ripened—a very vague expression that; thirdly, favourable climatic conditions during the blossoming season. The first of these can sometimes be obtained by having the trees worked on to a surface-rooting stock, and always by root-pruning, and at times by placing flat stones or slates under the roots at planting-time. Obtain the first of these and the second is sure to follow.

The climatic conditions are for the most part beyond our control, at least so far as hardy fruits are concerned. Personally, I do not think the weather that prevails during the time the trees are in bloom has any, or very little, direct effect on the crop; and what is more, I do not think those people who are so fond of ascribing the failure of the fruit crop to the effect of frost really believe it. The way in which weather affects fruit crops is indirectly through the bees and other insects, for should the weather be wet and boisterous, these are not so active. Still, that fact of itself would make no difference to those varieties that are always self-fertile. On the other hand, we must not conclude that, because the bees are able to carry on their work of pollinating the bloom of the self-sterile sorts with pollen brought from other varieties, a crop of fruit is sure to follow, for we know what sometimes happens even in the orchard-house where artificial pollination is resorted to and climatic conditions are nearly perfect. Doubtless there are many among your readers who have seen grand crops of fruit when and where none of these so-called essential conditions prevailed; while sometimes there has been an almost complete failure when, to all appearances, there should have been a bumper crop. On what, then, does the success of the fruit crop depend? I think all who have studied this interesting and vital question will agree that it is determined by certain physiological conditions of the tree more than by any external influences, conditions that are for the most part scarcely, if at all, discernible and much more difficult to clearly define. The study of the problems which arise around the cultivation of fruit trees always appeals with irresistible attraction to me. Unfortunately, I was compelled to throw up work that afforded me plenty of opportunities to study those questions for work that gave a better monetary return. Perhaps some of your readers who possess both the time and means to study this question will take it up, and to all such I would say, Endeavour to find out what connection there is between the varied tints that the foliage assumes in the autumn and the next year's fruit crop. I understand botanists do not attach any physiological importance to the colouring of the leaves, looking on it as incidental to the ripening of the tree or plant; but from observation and a few, I admit inconclusive, experiments I feel convinced in my own mind that there is an intimate connection between the different colours and the times at which different varieties and individual trees of each variety assume those colours; moreover, it will be found that a certain tree will turn colour much earlier one year than it will another. When that happens, one may be pretty sure of getting a good crop from that particular tree the following year.—W. BICKFORD, *Laira, Plymouth.*

MELIOSMA CUNEIFOLIA IN SOUTH DEVON.

**** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

The Lifting of Early Potatoes

THE general tendency is to lift early Potatoes too soon. Yet, on the other hand, there is no reason why the operation should be unduly delayed. The best time to lift the whole crop of earlies is when the tubers are fully developed and ripening has commenced. The advantage of allowing early Potatoes to remain in the ground until they are perfectly ripe is outweighed by the disadvantages of delaying the work, which prevents one planting the ground to satisfaction with another crop. Haulms of the earlies and most of the second-earlies will be turning yellow and beginning to show those natural signs of ripening, in which case the crop may be lifted at once. It is not policy to wait for the haulms to die down before commencing. The skins of young Potatoes are tender and will suffer damage if the work is done roughly, but the tubers will soon ripen in the store. It may be argued that lifting Potatoes before they are perfectly ripe will check the formation of starch. This is true, but of no consideration in the case of the earlier kinds so long as lifting does not take place while the tops are still green and vigorous. Of course, waste is inevitable when tubers are lifted during the growing period for present use. In such cases those marble-sized tubers left adhering to the haulm are lost. When allowed to make full growth these small Potatoes develop to quite a good size.

The firmer the skin is at lifting-time the better, but the importance of the skin being quite set is not so great as many people are inclined to believe. With main-crops the matter is of more importance, because the setting of the skin is the most certain test of ripeness and is an indication that the point in the fullest development of starch has been reached. Every care must be taken not to dislodge the skin of early Potatoes, and they must not be exposed to light and sunshine—that is, if the crop is to be used for edible purposes. "Greened" Potatoes are unwholesome. With sets, exposure to light and sunshine is beneficial. The longest amount of exposure tender-skinned edible Potatoes will stand is two hours.

Early lifting is always to be recommended when an outbreak of disease occurs. There were plenty of crops last year that would have given good yields if lifting had been done in late August or September before the ravages of disease had produced their disastrous effect.

Potatoes may be stored either in a clamp or shed from which light is excluded, and in a dry situation. Before storing, the whole bulk should be gone over very carefully and all specimens showing traces of disease removed. A certain amount of heat is always generated from stored Potatoes, and if diseased spores are present the temperature rendered favourable will cause disease to spread to the whole clamp. In a wet season, and when the presence of disease is suspected, it is a good plan to open the clamp and inspect it thoroughly for bad Potatoes. One of the advantages of storing in a shed is that the tubers are more easy to get at for this purpose.

Tubers should be quite dry when stored, and if a clamp is made it should be on a well-drained site. Drainage may be assisted by making the foundation of the clamp with a good thickness of cinders and covering with straw, on the top of which the

tubers are placed. Some growers make a hole to form the clamp, while others start it on the top of the soil. In either case the cinder foundation is an advantage. When the heap is made up it may be covered at once if the tubers are dry, but if they are damp and the weather is fine they may be left for a short time uncovered. Covering consists of placing a good thickness of straw material over the heap, and the straw is covered with a thickness of 12 inches of soil. It is absolutely necessary to exclude light and to put on sufficient covering to protect the tubers from frost. But ventilation is equally as important. This is provided by leaving holes in the soil along the top ridge of the clamp, into which whisks of straw are thrust. Such a system provides the necessary ventilation and at the same time affords protection from light and weather. Ventilation holes are placed at various distances apart, according to the size of the clamp. The usual distance is 3 feet or 4 feet. These remarks on clamping apply both to the early and the main crop. Small quantities, if covered up and protected from frost and light, can be stored in cellars and sheds.

The question of saving seed is an important one. The best size is a tuber weighing about 2½oz. Sets of early Potatoes are best put in the sun to dry and "green," when they are placed in trays or boxes and removed to a light, airy shed which must be cool and dry. It is far better not to clamp sets, particularly sets of early varieties. L. M. MARSHALL.

A HYBRID CAMPANULA

[The August number of "Irish Gardening" contains the following article on a hybrid Campanula raised by the late Mr. C. F. Ball of Glasnevin Botanic Gardens. It is hoped that his Campanula may be successfully increased and that it will be named after him. The illustrations are kindly lent by "Irish Gardening," of which Mr. Ball was the Editor previous to joining the Colours.]

CAMPANULA PULLA.

"IN the summer of 1914 the late Mr. Ball, who was well known to many of our readers, made some crosses between various species of Campanula. The seeds were sown when ripe, but had not germinated when Mr. Ball went away to the Army. During 1915 a few seedlings appeared and at first grew slowly, and for nearly two years did not seem quite happy. The seedlings, however, were cared for as well as possible and have gradually increased in strength, and this summer two of them have flowered.

"The plant illustrated in our present issue resulted from C. Raineri × C. pulla, and is quite a beautiful Bell-flower. The influence of C. Raineri is easily seen in the leaves and shape of the flower; that of C. pulla is not so easily discernible. The hybrid is larger in the leaves than either of the parents, and also in the flowers, but in shape they show unmistakably the influence of C. Raineri; the colour of the flowers is difficult to describe, but might be called light rosy lilac. The inflorescence, too, departs altogether from either of the parents, being a trailing, loose raceme, as shown in the illustration.

"The other seedling was apparently the result of the same cross, and shows unmistakably the influence of C. pulla, though it is much more intermediate than the hybrid illustrated. The flowers are intermediate in shape and opened a dark blue, becoming lighter to medium blue as the flowers became fully open. The leaves, though showing affinity with those of C. Raineri, are not so large as in the case of the plant illustrated.

"As both are flowering for the first time, it is early to say whether they will prove perennial, but as both parents are, it is natural to assume they will be so; at present most of the young shoots produced bear flowers.

"Although it is not easy to see any connection with C. pulla in the plant illustrated, the label in the seed-pot is still the one which Mr. Ball wrote himself, and must therefore be accepted as correct. —J. W. B., *Glasnevin*."

The Viola in War-time

LIKE most people, we had this year to severely curtail the space devoted to flowers, and there was some considerable difficulty in finding space in which to preserve stocks of favourite plants that could not very easily be replaced when happer times arrive. Too often in previous years the bulk of the Violas were scattered about in odd corners, and not infrequently there was a good deal of trouble in the autumn in securing good cuttings. This year we adopted a different plan, reserving a long, narrow border for the entire stock it was thought necessary to preserve. It is hardly likely that this particular spot ever previously carried Violas, and I had it liberally manured and well dug. In planting, no formal method of grouping or arrangement was adopted. I simply took the whole available stocks of each variety and planted them about 7 inches apart in rows across the border, the rows being a similar distance apart.

This has been a great success, as never previously have we had such a glorious display of this showy plant. Every variety has done well, even the true show sorts making a fine splash of colour. The varieties are: Archie Grant Seedling (lovely purple), Moseley Perfection (bright yellow), Sky Blue Seedling (a lovely colour and large flower), Virgin White (the purest and freest blooming white), Meg Blair (the grandest yellow show Viola), Mrs. J. Terris (white, with lovely blue edge, very large and fine), Orange Seedling, Lady Sinclair (cream, with purple picotee edge), Murray Gillies (a lovely maroon striped bloom of large size and finest form), Mrs. C. B. Douglas (the freest blooming of all Violas here, deep yellow and dwarf in habit), and Preston Favourite (plum-coloured, with white top petals, very free blooming and effective).

Cuttings of Violas should be inserted at the end of August, or during the first half of September, in a cold frame kept close and shaded for a few weeks, then gradually be exposed to light and air. During winter give air on every occasion when frost is absent. In mild weather never close the lights, but tilt well at the back. The Viola hates to be coddled.

Preston House Gardens, Linlithgow. C. BLAIR.

PYRACANTHA CRENULATA ROGERSIANA

THIS new Chinese variety of the Indian Pyracantha, discovered by Forrest during his recent expedition, seems likely to prove a very useful addition to our list of hardy evergreens. The photograph—[Unfortunately, not suitable for reproduction.—ED.]—shows a plant at Kew which was raised from Forrest's seed, sent to Kew in 1911 by Mr. J. C. Williams. This variety has so far proved much hardier and more vigorous than the original Pyracantha crenulata which came into cultivation in the early forties, being raised in the garden of the Horticultural Society from seeds sent from the North of India by Dr. Royle. It survived several winters trained against a south wall and was figured in Lindley's *Botanical Register*, Vol. XX., t. 52 (1884), but never became

popular in gardens owing, no doubt, to its tender constitution, and is now seldom seen. The only living plant I have met with is a small bush at Kew, which, though twenty-five years old, is not much more than a foot high and flowers and fruits very sparingly. The variety Rogersiana, on the contrary, is already more than 8 feet high at Kew, after only about six years' growth from seed. It produces flowers and fruit in considerable abundance, but the berries, which vary in colour from orange to scarlet, soon disappear, being apparently taken by birds. This interesting shrub is no doubt closely allied to the Himalayan P. crenulata, but the leaves are irregularly serrate and oblanceolate rather than oblong in outline. In its robust habit it also resembles the recently described Chinese P. Gibbsii, but the leaves are smaller and of a paler green. At Kew it passed unscathed through the recent severe weather—a striking test of its hardiness.

A. BRUCE JACKSON.

CAMPANULA RAINERI.

Some Butterflies in the Lane

FROM my earliest days I fondly loved a "flutter-by," as then I called him, to the delight of my elders, who forebore to correct my error. In turning out some old books the other day in a vain search for "The Scouring of the White Horse," I found a little manuscript book of childish rhymes, and in it this verse:

"The butterflies, those gossips dear
Who bring the news from far and near,
The blossom and the bird and tree
Have stores of tales they tell to me."

Regretfully I realised that little "Curlywig Nan" had *then* the golden key of the gate of "The Garden of Fancy," and old Anne has lost it somewhere along Life's road. Now, with all the other "grown-ups," I plod along the dry, hard footpath of Fact, and only get a glimpse at whiles through a gap into that enchanted garden. Though on such intimate terms with the butterflies, I then knew none of them by name save the Cabbage, and the Red Admiral, who flaunted his gay wings frequently in the Surbiton garden. Only during the present century have I been "properly introduced" to them, chiefly through "Our Country's Butterflies and Moths," by W. J. Gordon. The narrow, winding lane I now live in has steep ups and downs, and high hedges on banks, almost like a Devonshire lane (though not in that beautiful county, the birthplace of heroes). My lane is a favourite haunt of many kinds of butterflies and moths, for it leads through low marshy land, up here to the borders of moorland, with Heather, Gorse, and Pine trees; while not many miles away there are bare chalk downs also. Here early in the year is seen the Brimstone butterfly, the first herald of spring before even the Daffodils and the first Dandelions "take the winds of March with beauty." The dear little Orange Tip butterfly usually is the next. Then I get fleeting peeps of some Skippers, but not closely enough to identify them; they are such fidgety little fellows. The lane is frequented by many Fritillaries, especially the Large and Small Heath ones. That "ragged Jack," the Comma, I have often seen. At first I used to pity him, thinking he had been in the wars. Needless to say, the Cabbage Whites are here, but seem to prefer my garden to the lane. I, like other people, have a "visitation" of them this year, though one of the prettiest "living pictures" I ever saw was, a few years ago, a large bed of Lavender blossom and a flying fleet of white butterflies hovering over it.

The Green-veined White is another of my visitors. The Painted Lady pays an infrequent call, and the Red Admiral lives here. That most beautiful butterfly, the Peacock, is often seen here late in the summer and the autumn. He loves the Michaelmas Daisy Lil Fardell, as do bees and flies. Both Large and Small Tortoiseshells come here; the latter abound. Another lovely little visitor among white Clover in the orchard is the Chalk Hill Blue. It haunts parts of the lane in large numbers.

CAMPANULA RAINERI × PULLA.

As for moths, "their name is legion." I catch them with a large glass tumbler, slipping a stiff piece of thin card under it as the moth flies up into the inverted glass. Then I carry my prize safe and uninjured to a table, get out my books, and when I have identified my captures carefully, I let them fly again outside, and enter their names on my visiting list in the index of "Our Country's Butterflies and Moths" as aforesaid. Some day, when THE GARDEN has a spare space, I may tell of some of the moths, if the Editor thinks anyone would care to read about them.

ANNE AMATEUR.

P.S.—Since writing the foregoing I have added another butterfly to my visiting list, viz., the Small Copper, such a smart little red-brown-winged beauty. He came and perched close by me on a Tansy head which had tumbled to the ground, and a Chalk Hill Blue was close by on a white Clover blossom. They made such a pretty quartet of colour.—A. A.

Lucerne and Its Colour-Forms

BY H. STUART THOMPSON F.L.S.

THE place of origin of Lucerne (Medicago sativa) is uncertain, but probably it is a native of the eastern Mediterranean region. Being one of the best forage crops, it was long since introduced into Britain and other countries; and evidences of its escape from cultivation are everywhere to be seen. It is frequently established on roadsides, borders of fields, in pastures and coast sandhills. Perhaps nowhere can its variability in form and colour be seen to better advantage than on the sandhills and sandy enclosures close to Burnham-on-the-Sea.

The "Medic Fother or Horned Clover," as this plant was then called, was actually introduced into England in the middle of the sixteenth century by Turner, who called it "A very excellent herbe, because when it is ones sowen it dureth for the space of ten yeares, . . . and it may be mowen four times every year, and in some yeares six times."—"Herball," Part II., page 52 (1562). The normal colour of Lucerne is a pale bluish purple or violet; but at Burnham (Somerset) every shade of colour from white, through mauve and purple to a very dark violet-black can be seen. Recently on Burnham sandhills I was looking for Medicago media, a probable hybrid between M. sativa and the deep yellow M. falcata with sickle-shaped pods, which hybrid I discovered there in September, 1906. The flowers are a dirty yellow-mauve, and it does not seem to produce any good pods. This year I saw no sign of the intermediate. Its yellow-flowered parent (M. falcata) was first recorded from a sandy field near the Burnham lighthouses in 1884, and in 1906 was still there (White's "Flora of Bristol," page 228). The Yellow Medick has been increasing of late years in the Bristol district, for here it is an alien introduced with foreign seed and derived from mill-waste, &c. M. sylvestris, Fries, locally frequent in East Anglia, is supposed to be a hybrid between the same parents, but it seems to be fertile.

But though I failed to find M. falcata or M. media at Burnham this year, I was attracted by a great prostrate patch of Lucerne with pretty pale yellow flowers and yellow-green calyces. Close by in the same enclosure, to be let as building land, were several huge clumps of an almost black-flowered Lucerne. These were not prostrate, but decidedly bushy. When viewed from

20 yards off, the blossoms appeared quite black in the sunlight and against the yellow sand; but on closer examination they were an extremely dark violet, and not infrequently these dingy corollas were tinged with a distinct dark green. The large size of these clumps was remarkable. But the spirally twisted pods, the calyx-teeth and the foliage seemed normal in the various colour-forms I saw that day at Burnham. This tended to show how little importance should be attached to colour-forms of plants, and especially to those with normally blue, purple or red flowers. To the gardener or the artist they may cause excitement, but to the field-botanist they are mere incidents, even though, as in this case, he may dry a good series of specimens.

Since this note was in type a second visit to Burnham revealed M. media Pers. in small quantity.

TULIP TITTLE-TATTLE

NOTES ON THE NEW TULIP VADE-MECUM, WITH SPECIAL REFERENCE TO COTTAGE VARIETIES.

BY THE REV. JOSEPH JACOB.

Report of the Tulip Nomenclature Committee, 1914-15.—The Royal Horticultural Society takes rank as a learned society. A little pleasantry upon a title-page of any of their publications is unthinkable. Were it not so, what a magnificent opportunity there would have been for the editor to have extended this brutally bald announcement of the contents with a true seventeenth century enlargement on the lines of old Ralph Austen, and to have added as a sub-title "Or the spiritual use of colour pigeon-holing, whereby any unparliamentary language by certain occupants of a garden may be avoided."

Within a quarter of a mile of my Rectory house there is an old wall. It was built in the sixties of the seventeenth century by the famous divine Philip Henry. This good man kept a diary. One evening, after watching the bricklayers at work, he made this entry: "Thank God, no bad language heard to-day." Happy will be the man, happy will be the woman, who takes this book as their guide, philosopher and friend in their Tulip arrangements, for then, after visiting their show, their friends will be able to go back home and write in their diaries or in letters to friends: "Saw a beautiful lot of Tulips at So-and-so's to-day. Thank God, I did not hear a single swear word. They were all so proper; just as they should be."

I feel confident that this volume will supply a long-felt want in another way. The question is often asked, "Which is the best bright red Darwin?" or "Which is the best lilac?" and so on. The "List of Selected Varieties" on pages 9 to 16 provides an answer to all such enquiries.

SHIRLEY POPPIES. SEED SHOULD BE SOWN NOW.

In the text the names given under the different colour heads are simply called "selected varieties." All the same, they were originally chosen by the English members of the committee as being "the best." The title was altered out of deference to the wishes of our Dutch friends, who could not agree to all the choices, and who urged that it was too big a thing for even a full committee to have attempted. On reflection I think they were right and wise. In a matter of this kind individual preferences, tastes and inclinations must come in and render any agreement upon a large scale impossible. It is a providential dispensation that it is so for several reasons, for nevertheless, going back to the selected list, members of the committee would both collectively and severally agree to my summing up in colloquial phraseology of the varieties therein included as being "not a very dusty lot."

Cottage Varieties.—In the present year of grace there is a great scarcity of all "early" varieties, so much so that a famous firm like Pearsons of Lowdham are unable to include any in their annual bulb list. Report says that the cut-flower growers have been on their track and annexed all that they could get hold of at prices highly satisfactory to the fortunate growers! Never mind, even now some real tip-toppers are being worked up into decent-sized stocks, to be all ready when wanted. Mr. Jones of Carters and I

"Know a bank whereon the wild Thyme blows,
Where Oxlips and the nodding Violet grows."

For "bank" read "an old mania-time garden in Haarlem," and for "Thyme," "Oxlips" and "Violet" read "Tulips" and "Daffodils." We know, too, that that garden has been raided and some of its fair occupants carried captive to England. These are they. With regard to Cottage varieties, the case is different. Ever since British growers found out that they could be grown as satisfactorily on business lines in their own country as elsewhere, stocks of the more popular favourites have been cultivated. Accordingly we will find most of the well-known names in retailers' lists this autumn. Picotee, Inglescombe Pink, Gesneriana lutea, G. spathulata, Orange King, The Fawn, Golden Crown, Isabella, Fairy Queen, John Ruskin, Rosalind and Jaune d'Œuf are all there, and a purchaser of this dozen would not go far wrong. Taking the selected names on page 13 of the Royal Horticultural Society's book, I would suggest as trial novelties for 1917 the following: Sir Harry, a soft refined pink with wide pointed petals of medium height. It is the breeder form of Summer Beauty, and keeps fairly constant without "breaking"—that is, going striped. It is a most beautiful Tulip, and I have found it to be very amenable to pot culture for late March bloom. Boadicea has long, egg-shaped blooms of a rich blend of mahogany red and orange. It is quite one of the largest of all Tulips, but it carries its size without the least trace of coarseness. A counterpart of Samuel Taylor Coleridge's "great good man." Here "Greatness and goodness are not means, but ends." Alike in a large bed, in a moderate-sized clump and in a vase, Boadicea is one of the *very best* of all Cottage Tulips. Gondvink somewhat resembles it in its colouring, but there is less red in its general appearance. The flower is goblet-shaped and is borne on extra tall stems. The plant as a whole is full of dignity and has a decidedly important look. The rectified or broken forms are worth saving. Beau Brummel is a Tulip of a totally different style from those already mentioned. It is well named, smart and dapper in character, brilliant scarlet in colour, rather on the small side. It would be a very popular variety were it only more constant in its behaviour. It is late in coming into bloom. Cassandra may be classed as a pure bright rose, pointed, and not very tall, early to flower. It gives a bright bit of colour of an unusual shade. Moonlight (very pale yellow), Illuminator (brilliant yellow, edged and flushed scarlet), and Golden Bronze are all fine varieties well worth a place in any garden.

The Autumn Sowing of Shirley Poppies

THE war still drags on, and there appears to be a likelihood of a continuance of "war gardening" in 1918. This year made it very difficult for owners of gardens with large flower-beds to fill, as there was a scarcity of bedding-out material, apart from the fact that it was unpatriotic to buy such plants. Growing vegetables in such beds may sound very nice on paper, but unless the bed is a long south border which may be utilised for the growing of Potatoes, there is nothing gained. Beds in lawns

can only be utilised for the growing of such crops as Beet and Lettuce, both of which are already a glut in the gardens as catch crops, and cannot in many cases be given away. There will be a great deal of ground vacant as soon as the Potatoes are lifted. This may be partly utilised by raising Shirley Poppies to use as bedding plants for 1918. All that is necessary is to scatter the contents of a packet of the seed on a piece of ground which has been raked moderately fine. The seeds need not be covered; in fact, they will be better left on the surface. They may be sown during August and until the second week in September with every prospect of success. Thinning will be unnecessary, provided the sowing is made rather thinly. Nothing is done to the seedlings until February, when they are lifted with good roots and planted 1 foot apart in any vacant flower-beds. Here they will remain and look extremely unhappy until new growth commences in late March. After that they simply ramp ahead and each plant will form a dense bush simply smothered in blooms, which latter, by the way, are about double the size of those of spring-sown plants. The plants grow from 3 feet to 4 feet high.

Great Missenden. CLARENCE PONTING.

A NEW HYBRID LILY

THE APPEARANCE OF A NEW LILY OF MERIT GIVES SUCH A NOTE OF INTEREST TO LILY GROWERS THAT WE NEED OFFER NO APOLOGY TO READERS FOR BRIEFLY GIVING THEM A FEW DETAILS OF THE NEW-COMER.

WELL-NIGH half a century ago Mr. Parkman, a well-known American Lily enthusiast, startled the world with the glorious hybrid Lilium Parkmanni, a grand hybrid between those finest of Lilies, auratum and speciosum. This was undoubtedly the finest hybrid Lily ever raised (see Mr. Grove's reference in his work on "Lilies," and also the notes referring to Parkmanni in Dr. Wallace's earlier work, "Notes on Lilies"), and the great pity is that such a noble plant should be lost to cultivation. It seems that many years have now elapsed since it has been seen either here or in America. I do not know if the Editor of THE GARDEN can enlighten us, but I am under the impression that a coloured plate of L. Parkmanni was given in one of the earlier issues of that worthy journal. Certainly the Lily was shown before the Royal Horticultural Society and received an award of merit from that body in years past. So much, briefly, for L. Parkmanni.

This season I have flowered for the first time the new hybrid Lily which is a worthy successor to Parkmanni, if it does not excel that variety in beauty. A hybrid between the finest forms of speciosum and auratum, it carries the immense size of auratum platyphyllum and its wonderful fragrance, with the finest colouring ever seen upon the most brilliant speciosums. Stem, foliage and bulb are best described as super-speciosum.

I enclose a photograph of the first spike carrying two blossoms, which will give an idea (though perhaps a poor one) of the size and beauty of marking of the new-comer. The seed was sown late in 1914. Mr. R. W. Wallace of Colchester was greatly impressed when he inspected the flowering plant a few days ago.

From present appearances the new-comer gives the impression of having a first-class constitution, being, as far as can be seen, without any weakness at any point. Especially worthy of note is the substance and breadth of petals, which go to build up a massive flower. P. S. HAYWARD

[A coloured plate of the beautiful Lilium Parkmanni appeared in THE GARDEN of June 7, 1879, together with the following description: "This remarkable Lily was raised by Mr. Parkman, President of the Massachusetts Horticultural Society. It is a hybrid between L. auratum and a deep-coloured variety of L. speciosum. The latter was the female parent. Fertilisation, Mr. Parkman [illegible], took place readily, and the young bulbs were planted in the open ground for the first time in the spring of 1869. There were about fifty of them. Several, as they grew, showed the peculiar spotted stem of the male parent, but when they set flower-buds, as nearly all of them did in the same season, the features of L. auratum could be distinguished only in one of them. The rest, in bud and flower, appeared to be merely L. speciosum, quite unaffected by the pollen of the male parent. The one alluded to was a remarkable exception. The flower opened ten days earlier than any of the rest; it had the fragrance of auratum, and resembled it also in form. This first flower measured 9½ inches from tip to tip of the petals. In the following year there were several flowers, of which the largest measured 11½ inches. This hybrid, Mr. Parkman reports, was the most successful result of a great number of experiments tried by him in the cross-fertilisation of Lilies. This genus is certainly remarkable in the tenacity with which it preserves the characteristics of the female parent and resists the influence of the male. Thus he impregnated L. longiflorum and L. Takesima with the pollen of L. auratum, L. speciosum, and six or eight other Lilies, the anthers of the fertilised flowers being carefully removed before they ripened. L. Takesima bore seed in abundance, but the resulting plant did not differ perceptibly from its female parent, showing no feature of the male. He removed its anthers and fertilised it again with auratum and speciosum, thinking that the influence of the male might appear in the second generation if not in the first, but this double fertilisation produced no effect. The same result followed a similar experiment with L. canadense and L. superbum. In this case also the flower resulting from the first experiment was again fertilised. The result was a very scanty crop of seed, but this seed produced a plant in which no sign of the male influence was visible. L. Parkmanni, as will be seen, is a noble Lily, large in size and strikingly bright in colour. It succeeds well in a pot, but Mr. Anthony Waterer, from whose establishment at Knap Hill the flower was obtained from which our plate was prepared, informs us that it grows freely with him planted out in company with L. speciosum."—ED.]

THE NEW HYBRID LILY: LILIUM SPECIOSUM × AURATUM

ROSE POSERS

(1) Sub rosa.—I have been told or have read somewhere that the Rose hung up over the convivial meeting was necessarily a *white* Rose. Is this so?

(2) One historical Rose has almost rivalled the Vicar of Bray in its effort to be all things to all men. At least it is so stated. Does any reader know which Rose this was and if the tale is true?

(3) I have been told by Mr. Jannock of Dersingham how he sent Lilies of the Valley to South Africa in bloom. How did the Egyptians send over Roses to Rome in winter-time in the days of Martial the poet?

Perhaps someone will send us a note about these interesting points in connection with Rose history.

JOSEPH JACOB.

BOTTLING FRUITS.—III

THE SEASON OF SOFT FRUITS IS NOW PRACTICALLY OVER, BUT THERE STILL REMAIN LOGANBERRIES, WINEBERRIES AND BLACKBERRIES, AND WE ALSO HAVE TO CONSIDER THE BOTTLING OF STONE FRUITS.

Loganberries.—The Loganberry, which is said to be a hybrid between the Blackberry and the Raspberry, makes a very delicious preserve, resembling the Raspberry, yet distinct in flavour, being rather more acid and combining the flavours of the parent fruits. The fruit should be gathered when just under-ripe, the stalks removed, and be put into the jars, packing tightly, as recommended for Raspberries. I do not advise washing this fruit unless absolutely essential, as being a very juicy, soft fruit this treatment does not suit it. Fill the bottles with water, or syrup if used, and after heating to the necessary 160° Fahr. seal the bottles and cool off.

Lowberries.—The Lowberry is another hybrid berry similar to the Loganberry, but possibly an even more luscious fruit. For preserving it should be dealt with in the same way as the Raspberry and Loganberry.

Wineberries.—The Japanese Wineberry is a member of the same family as the Raspberry, which it resembles. It has, however, a later season for ripening and is equally delicious when preserved. It should be bottled in exactly the same way as the Raspberry.

Stone Fruits.—We are now arriving at the season for the heavier stone fruits, and have, or shall have in the near future, Plums of all kinds, including the Gages; Peaches, Nectarines, Apricots and Damsons.

Plums and Gages.—Dealing with the above fruits in order, we will first consider the Plums and Gages. Of these the culinary sorts are the best preservers, but this does not mean that the dessert varieties are of no use—far from it. All kinds of Plums will bottle well, the cooking sorts responding best of all to the treatment. Plums and Gages should be picked for bottling slightly under-ripe, as if picked after ripening they are apt to be more acid in flavour when preserved than if under-ripe. Remove all stalks and carefully wipe the fruits with a clean, soft cloth, and prick them before putting into the bottles. Pack the fruit in the bottles as tightly as possible, as Plums shrink very considerably when being sterilised, and in consequence rise to the top of the bottles unless packed very tightly, which checks the rising. Heat slowly in the steriliser for from an hour to an hour and a half in order to thoroughly sterilise the fruit right through, and attain the same temperature as usual. Keep at this for about five minutes, then remove, seal the bottles with their covers, and stand in a cool, draught-proof place to cool off. The best Plums for preserving are Rivers' Early, Victoria and Monarch; and the Gages I would recommend are Old Green Gage and Transparent.

Peaches.—These are very prolific this year in most places, both under glass and in the open, and form a delicious bottled preserve. Gathered in a slightly under-ripe condition, the fruit should be halved with a silver or silver-plated knife, the stone removed and the somewhat woolly skin pared off. Be sure the knife is silver or silver-plated, for steel will stain the fruit where it cuts or touches it. Fill the bottle with the halves of the fruit well but not too tightly packed, and fill up with water, or preferably, in this case, with the syrup previously recommended, and bring slowly up to the required heat. Seal and cool carefully, when the treatment is completed. The best sorts for preserving are Royal George, Dymond and Sea Eagle.

TOPPING OUTDOOR TOMATO PLANTS.

1, A plant not topped; 2, A plant topped; 3, Fruits not swelling; 4, Fruits swelling; 5, Condition of plant in September; 6, Condition of fruit in September; 7 and 8, Relative sizes of fruits.

Nectarines.—These also preserve very well indeed, and should be treated similarly to Peaches, though it is not so essential to remove the skin of the fruit. Violette Hâtive and Elruge are the best varieties for bottling.

Apricots.—Little need be said on how delicious this fruit is when preserved in any way, and as a bottled fruit it stands in the first rank. It is another fruit that it is preferable to preserve in syrup, though, of course, it can be sterilised in capital condition for keeping qualities under the water only method of treatment. Cut the fruit in half as recommended for Peaches, and treat in the same way, not, however, removing the skin of the fruit. Many people like to break the stones and sterilise the kernels with the fruit. This fruit should also be preserved when slightly under-ripe, the best kinds being Moorpark and Breda.

Damsons.—These are another front rank fruit and should be treated exactly the same as Plums, taking care to wipe quite clean with a soft cloth. For general use the Damson probably ranks with the Plum for general utility, and these two form very welcome additions to the bill of fare during the winter months. There is a vast difference in Damsons with regard to the class, and only the better fruits should be preserved. The best variety for the purpose is the common Damson, while the Prune Damson is very useful.

Of the foregoing fruits the soft kinds, along with Plums and Damsons, are best for culinary purposes; while Gages, Peaches, Nectarines and Apricots are more useful for dessert use.

Aldenham. (Mrs.) E. J. BECKETT.

TOPPING OUTDOOR TOMATO PLANTS

ALL Tomato plants grown outdoors must now be topped, otherwise there is much waste of strength of the plant and loss in the weight of fruit. In the accompanying sketch, No. 1 shows a plant allowed to continue its growth of main stem till late in the season—the middle of September. The result is that all fruits formed after the first week in August fail to ripen, and so the continued growth of the top and the fruits on it after that date rob the fruits below—those formed before the first week in August—of a great deal of nourishment, the total weight of matured Tomatoes being much lighter than in the case of timely topped plants.

No. 2 shows a plant that has been topped about August 6. The top, as shown at No. 3 of No. 1 plant, is cut off. Immediately the leaves and the stem and fruits set, as shown at No. 4, begin to swell, and so every one of the fruits ripens properly, swelling to a large size. This is regarded as the most economical way of growing outdoor Tomatoes in this country. It may be found necessary to defoliate the plants somewhat, as shown at the bottom of plant No. 2, to permit of the maximum amount of light and air reaching the fruits.

No. 5 shows the condition of an untopped plant about mid-September, and No. 6 the condition of a topped plant at that date. Also, Nos. 7 and 8 show the relative sizes of the fruits, respectively, at that date.

Then the question of watering and feeding arises. We must be careful not to over water, remembering that each plant possesses fewer leaves, that the season is becoming cooler, and that the rainfall often increases. The atmosphere is much more moist, and if we apply an excess of moisture to the roots many handsome fruits split and are lost. G. G.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.*

Vegetable Marrows

NOW there is a glut of these, a few recipes may bring relief from the appalling sight and insipid taste of a British cooked (?) Marrow. A witty *cordon bleu* said that in England vegetables were only *prepared* for cooking, and not even prepared properly. He then enlarged upon the awful "railway station paste" with which an English cook attempts to hide her ignorance by smearing it over Marrows, Beans, or anything else. (1) Take a dozen or more tiny Marrows about 2 inches long, with the flower still on, if you like, and throw them into boiling oil. In about eight minutes drain them out and serve on a very hot dish. Oil is not extravagant at all, since you can use it a dozen times or more, simply clarifying each time. (2) Cut a fair-sized Marrow (about 10 inches to 12 inches) into slices about half an inch to three-quarters of an inch thick, fry in oil nutter or with rashers of bacon, and serve very hot together with the bacon. This is excellent as a breakfast or luncheon dish. Never under any circumstances remove either the skin or the pips of Marrows, also never cook soda with *any* vegetable.

STUFFED MARROWS.

Cut a Marrow of convenient size *lengthwise* in two, scoop out the seeds with a spoon and lay them on a plate or in a casserole; fill the void with a mixture of any little remains of meat (minced), breadcrumbs, finely chopped Onion, ground Nuts if liked, pepper, salt, a little Tomato sauce, a little *fresh* (if possible) Thyme, Tarragon, Marjoram, Sweet Cicely and Mint. Put the two halves of the Marrow together, tie securely with a couple of pieces of white tape, and lay in the casserole with the pips and any odds and ends of vegetables that you have—Peas, Beans, Onion, the green stalks or leaves of Onion, a slice or two of Apple, chopped up Tomatoes, a teacupful of stock or water—to rub Garlic round the casserole is a great improvement and half a teaspoonful of brown sugar. Cover closely and stew till a fork goes in readily. Do not overcook any vegetable, but remember that a certain crispness renders them far more wholesome and dainty. Most vegetables look as if they had been boiled to pap and then sat upon—a truly nauseous sight. Daintiness is the very soul of good cooking.

MARROW SOUP.

A delicious soup can also be made of Marrows. Perhaps you have steamed or cooked a Cauliflower yesterday, perhaps Carrots or Turnips, in fact, anything (except Cabbage). You have, of course, kept the liquor—every trained cook does. Then fry some Onion in any fat you like, except mutton—you can fry it in your casserole—add the vegetable stock we spoke of, cut up the Marrow—skin, pips, and all—add a little mace, salt, pepper and sugar, and when thoroughly cooked rub through a sieve till every particle is used; return it to the casserole if wanted richer or more nourishing, and add milk or cream. In Italy a quickly prepared and delicious soup is made simply from an Onion, a Parsnip, a Leek and a Turnip (or Radishes too old and hot to eat) boiled in two quarts of water, rubbed through a sieve, &c., as above, and flavoured to taste. (Mrs.) B. M.-C.

WHITE FOXGLOVES SELF SOWN IN A BORDER.

WHITE FOXGLOVES

ALTHOUGH Foxgloves, whether white or coloured, are best of all in woodland, they are also most welcome in flower-borders and in spaces in shrubberies. The illustration shows some groups of a pure white variety of good habit, self sown at the edges of some borders, whose proper occupants are for the late summer. Sometimes in gardens a Foxglove will sport into a regrettable malformation, when, instead of the graceful spire, a kind of open cup or inverted bell appears at the top, destroying all the beauty of form and symmetry of the plant. From quite another point of view Foxgloves are just now of special importance, and it is to be hoped that the leaves of the myriads of wild plants that appear in many copses are being collected for medicinal use. The highly poisonous substance, digitalis, pervades the whole plant, but is prepared from the leaves. The drug is used in cases of heart disease, but requires extremely careful administration.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cabbage.—Put out the plants as fast as they are ready; the larger they are, the greater the check they receive. Small, neat-growing sorts like Harbinger and Ellam's Early will succeed if planted 18 inches apart in 18-inch rows, cutting out alternate heads quite early. Larger-growing varieties like Flower of Spring or Wheeler's Imperial will be all the better with rows 2 feet apart and more space in the rows. Firm, clean ground will suffice without digging.

Potatoes.—In many gardens the haulm displays the presence of disease. Some persons cut off the haulm to check the disease penetrating to the tubers, but in this I have little faith. If removing the haulm is an advantage, it should be pulled up entirely by standing on the rows, thus leaving the tubers in the soil, which, in the case of late sorts, will enable the skin to become firmer. All second-early varieties should be lifted, carefully examined, and stored in a cool, dark shed or cellar, clearing away all tops, diseased tubers and weeds as a preventive of germs lying in the soil.

Cauliflowers.—For wintering the young plants under glass in a cold frame, make a sowing of Magnum Bonum or Walcheren. These plants will be suitable for putting out in the spring or growing on in pots for early use. Protect from sun the heads of those forming, by tying the leaves over the top, thus maintaining a pure white flower-head. Not only in appearance are these heads superior, but they are more succulent and tender.

Endive sown last month will now be ready for pricking out into cold frames for the winter. Blanching of full-sized plants should be done a few at a time, as required. Lay a slate on the top of each head, tie the leaves up over the crown, or cover with an inverted pot.

Lettuce.—Sow in cold frames for successional crops. Prick out at once those ready, to prevent them being drawn up weakly.

Onions.—Lift the main crop as fast as growth matures and the tops die off. Lay the bulbs on the ground thinly to dry, and store them in a cool, airy shed.

Parsley.—Make a thin sowing in a cold frame for winter use.

Spinach.—No time should be lost in making a final sowing of Prickly or the Round-seeded varieties for early spring use.

Tomatoes growing against walls should have surplus leaves cut off to admit sun to the fruit to hasten colouring. Where possible, cover the plants with lights from cold frames.

Fruit Under Glass.

Muscat Grapes should have aid in ripening by warming the hot-water pipes day and night during dull, sunless weather to maintain a buoyant atmosphere, with air admitted both night and day. The roots of the Vines must not suffer from want of water, neither must they have too much, especially where the soil is heavy and retentive of moisture. Do not allow the laterals to get too far ahead to exclude sunlight.

Late Grapes, as Alicante, Lady Downe's and Gros Maroc, should have the laterals thinned and shortened back, each week supplying the roots with a sufficiency of water to enable the berries to attain full size and colour.

The Flower Garden.

Hedges of Privet, Yew, Holly, Thuya Lobbii, and evergreens should be neatly cut, as growth has finished for this season.

Rambler Roses.—To enable the current season's growth to become matured, the pruning of these should be completed by cutting away almost

all of the current season's blossoming shoots. Where growth was sparse, a few of last year's growths can be left if overcrowding is not the result.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—The long-continued drought, accompanied by great heat, had a very bad effect on this crop, and the bulbs will require very careful treatment lest they begin to root afresh with the approach of autumn. Rather than wait for an enhanced size of the bulbs, it will be safer in many cases to draw them and dry them off, even though the crop may be less bulky than one could wish. The autumn-sown batch will now be sufficiently advanced to allow for weeding the rows, after which the interspaces should be hoed a few inches in depth. A swan-necked hoe is the better implement for this purpose.

Cauliflowers.—Should the latest batch of Early Erfurt be moving too slowly, a pinch of sulphate of ammonia applied to each will exert an immediate and beneficial effect. It is not essential to cover all the ground with this material; merely round the stem of each plant, but not touching it, is quite sufficient to ensure the desired effect.

Carrots.—Stump-rooted varieties, when there are any left after supplying summer requirements, should be lifted and stored in a cool place or in soil in pits in the garden. The roots, if left too long in the ground, become hard and comparatively valueless. That is why they should be lifted soon.

The Flower Garden.

Cyclamens.—Seeds of C. neapolitanum are now ready to sow, and, given time, are certain to yield a large percentage of plants. I raise them in a cold pit, and am in no panic should the seedlings linger long in making their appearance. The old plants, if not already surface-dressed, should have some nice light material spread over the surfaces where they are growing, the flowers being due immediately.

Colchicums.—It is not yet too late to set these, though Bornmülleri will soon be in flower. Speciosum album seems to thrive best when often transplanted, and should there be a failure of this beautiful variety, it may be taken as an indication that a new situation would be appreciated.

Iris (English).—I have lifted all our stock, and this is a suitable time to replant. A large number occupies but little space by planting at 3 inches to 4 inches apart in rows and 7 inches between the rows. Like other bulbous Irises, a dressing of cow-manure applied to the surface so that its properties are washed down is a very valuable aid to these. All our Spanish Irises were replanted last year, and being sufficiently patriotic I took a crop of early Potatoes off the beds. They are now being surface-dressed and put into shape for another season, but no intercrop will be planted next year.

Fruit Under Glass.

Late Grapes.—It may now be advisable to heat the pipes in damp weather and during cold nights, but much depends on the structures and their condition and also the stage which the Grapes are at. If started early in the year, most varieties will be nearly matured, and in that case applied heat will be needed only to preserve a dry and airy atmosphere in the meantime.

Mealy Bug.—I would very strongly advise those who have this pest to deal with, and which sometimes is so virulent as to besiege and occupy the bunches, to vaporise with a nicotine insecticide and continue to repeat the application till every living bug has disappeared. If the Vines have been grown without the leaves having been weakened by continued moisture, and only primary leaves are on the Vines, they may be vaporised at double strength without doing the least harm to anything but the objects of the vaporisation. Vines that have been cleared of fruit, besides being vaporised, may be syringed occasionally with water at 150°.

Melons.—In many gardens the main crop of Melons ripens now and a little later. There is a danger to health in allowing the fruit to hang too long and becoming over-ripe, directly the crack round the insertion of the stalk appears being the proper moment to cut the fruit, which may be kept for some time in a cool room. No water should be applied, but free ventilation should be given in all suitable weather.

Peaches.—These will now ripen slowly both indoors and on walls, and may be further retarded, if necessary, by hanging mats or other material in front of the trees. Gather all fruit as it becomes fit, and lay what is not required for present use in a cool room till wanted. If trees are very vigorous they will need going over for the last time to pinch out side shoots, and as trees are cleared of fruit they should be pruned without delay, leaving only what is wanted to furnish the trees for another season.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

The Autumn Treatment of Loganberries and Raspberries

DURING the last year or two the value of the Loganberry for preserving purposes has been fully realised, and it is by no means unusual to find the fruits offered for sale in shops as "Giant" and "Egyptian Raspberries." The plant is a rampant grower and will thrive in almost any soil, yet the majority of those who attempt to cultivate it do not get anything like the crop that a properly tended plant is capable of producing. This is due more to ignorance than to any wilful lack of attention. It should be fully realised that the fruit next year will be borne on the lusty young growths or rods that are being pushed up from the base this summer. The better these are ripened before the winter the better will be the crop next year, hence anything that can be done to bring that about ought not to be neglected. The growths that are fruiting this year have completed their work when the berries have all been gathered, and the sooner they are cut right out the better it will be for the young ones that remain. Too often they are allowed to remain until the winter, all the time deriving a certain amount of nourishment from the roots, and impeding the progress of light and air to the new shoots. After cutting away the old rods the cultivator will probably find that there are more new ones than can be accommodated. If this is so, the weakest ought to be cut away, retaining only sufficient of the sturdiest to furnish whatever support is available.

With Raspberries the same methods apply with even greater force. Too often I receive complaints of Raspberries being small and hard, the flowers in some instances refusing to set, and in others collapse of the canes after the flowering stage has been reached. In nearly every case this can be traced to immature rods or, in other words, only partial ripening the previous autumn. For many years now I have made a practice of going over the Raspberries early in June, cutting away the obviously weak and unwanted new shoots, leaving only the strongest and best. Then, immediately all the fruit has been gathered, the old canes are cut out and the new ones loosely tied in their places. The result by winter is stout, hard canes of a beautiful brown colour, and a heavy crop of luscious fruit the following year.

H.

A COLUMN FOR THE CURIOUS

A BREADTH OF RUE IN FLOWER.

RUE (RUTA GRAVEOLENS).—Though usually accounted a physic-garden herb, Rue is a pretty plant in any garden, whether it is grown for the sake of the level mass of yellow flower-heads in July or for its blue-grey foliage at other times of summer. It has long been valued for its medicinal qualities, a general idea of which may be gathered from John Parkinson, who, writing early in the seventeenth century, says of it: "The many good properties whereunto Rue serveth, hath I think in former times caused the English name of Herb Grace to be given unto it. For without doubt it is a most wholesome herbe, although bitter and strong, and could our dainty stomaches brooke the use thereof, it would worke admirable effects being carefully and skilfully applyed as time and occasion did require: but not undiscreetly or hand over head, as many use to do that have no skill. Some do rippe up a bead rowle of the vertues of Rue, as Macer the poet and others in whom you shall find them set downe, to be good for the head, eyes, breast, liver, heart, spleen, &c. In some places they use to boyle the leaves of Rue and keep them in pickle to eat them as Sampire for the helpe of weak eyes."

In Mrs. Bardswell's pleasant book, "The Herb Garden"—a book which contains a quantity of interesting herb lore—we read of country people eating chopped Rue between slices of bread and butter, and that it is also commonly so eaten in Germany.

THE REV. J. JACOB'S enquiry on page 244 reminds me that the old gardening periodicals—mostly monthly ones—have long been regarded as mere waste paper, and the value of them commercially is almost nil. Here and there, however, the student of floricultural history may perchance get from them a grain of corn after sifting a very large heap of chaff. For anyone to contemplate making a collection of periodical horticultural literature is out of the question; want of space alone precludes it. It would have to be done by a society or corporate body having a special interest in the subject. There is unquestionably a wide field open in this particular branch of horticul ural literature, as I know by experience. Thirty years ago, when I was regularly at work on horticultural literature at the British Museum, I came across many of these old gardening magazines. But the collection there is very incomplete, and, so far as I know, there is really no list or catalogue extant which claims to be anything like a comprehensive one. Some, like "The Floricultural Cabinet," are still well known, but others, like the one specifically mentioned by Mr. Jacob, were merely of local repute; they lasted for a time, then disappeared and have been forgotten. It would certainly be most useful if a comprehensive catalogue of this class of literature could be compiled. Such a work would have to be purely a labour of love, and Mr. Jacob is just one of those who might occupy his spare moments on such an undertaking. Never having kept a record of those I have met with, it is only possible for me to give a few bare titles. The mere placing of them on record may serve some purpose, and from one of my notebooks are selected the following: "Paxton's Magazine of Botany," "Loudon's Gardeners' Magazine," "The Floricultural Cabinet," "The Florist and Pomologist," "The Midland and Northern Florists' Guide," "The Florist," "The Floricultural Magazine," "The Midland Florist," "The Florists' Journal," "The Florists' Magazine," "The Horticultural Journal," "The Gardener and Practical Florist," "The Gardeners' and Foresters' Record," "The Gardeners' Magazine of Botany," "The Garden Companion and Florists' Guide," "The Birmingham and Midland Gardeners' Magazine," "Gossip for the Garden," "Walkling's Florists' Guide," "The Scottish Florist and Horticultural Journal," "The Gardeners' Hive," "The Midland Florist and Suburban Horticulturist," "The Scottish Gardener," "West of Scotland Horticultural Magazine," "The Floricultural Review," "The Floral Magazine," "The Floral World," "The Gardeners' Gazette," "The Horticultural Register," "The Magazine of Botany and Gardening" (Rennie's), &c. Many of these were started in the thirties and forties of the last century, some of them running on for quite a number of years.—C. H. P.

Notes from a County Down Garden in Autumn

"The melancholy days have come,
The saddest of the year."—BRYANT.

SWEET PEAS have bloomed very freely up to the present time, but it seems to me that we have too many light-coloured varieties, a great number of which seem to be much alike. What appears to be wanted are dark colours, to give variety not only to the show table, but to the garden.

Varieties of Marguerite Carnations are well worth growing from seed, as they give such an abundance of beautiful fragrant flowers, and I have noticed very few singles among them. The colours are brilliant yellow, pink, rose and white selfs. They make very handsome displays in vases.

There are a great many "useful household vegetables" to be seen this year. Beetroot is both ornamental and useful in the Cabbage plot. I think I am justified in saying that "Alphol" has cured a trench of Celery afflicted with disease. The aroma from the plantation has disappeared, and the plants seem to be growing well again. Tomatoes are ripening solid and weighty, and, like everything else in one's garden, repay for carefully selected compost and also for correct potting. Everyone commencing gardening should note these two things, as nearly everything else in connection with gardening is routine work; so study your gardening books for this information.

On the whole, one has much to be thankful for, but a good heavy shower of rain once or twice a week during hot weather is worth a great deal to gardeners and farmers generally. I trust soon the implements of warfare may be put aside and the plough and the spade return to their own again, for mankind was brought into this earth to subdue and cultivate it.

Holywood, County Down. WALTER SMYTH.

The Land of the Bilberry

IN the old days romantic the remote little village of Clun was a place of some importance, and up to the year 1886 it was a borough incorporate, governed by two bailiffs and a Recorder, its charter being confirmed by Edward II. When first I knew it—before the arrival of that panting juggernaut, the motor-'bus, disturbed the seclusion of its peaceful streets—Clun was not very easy of access, for the nearest station (Broome, London and North Western Railway) was six miles distant.

In those days it would indeed have been no surprise to have seen "an elfin vision" during a ramble on the moors in August, when all the children of the district go "Wimberry picking." For does not Dryden tell us that

"Above the rest our Britain held they dear,
More solemnly they kept their sabbaths here,
And made more spacious rings, and revell'd half the year."

But even if the fairies have quite forsaken Clun, it is still full of delights for the lover of Nature—the botanist, geologist and antiquarian. I have been there when the hills were one wide dazzling waste of snow and the farmers were full of anxiety lest any of the little sheep for which the district is famous should have been overwhelmed in the fleecy shower. I have been there in August when children and "grown-ups," after an early breakfast, start off for a day on the hills to pick the luscious purple berries of Vaccinium Myrtillus, the Whortleberry or Bilberry. Range after range of hills surround the village, and here are acres ot the little shrub growing on stony heaths alongside the purple Heather.

It is a fine clear day, and a climb of almost 1,000 feet reveals one of the finest views in the County of Salop. To the north lies the little town of Bishop's Castle, whose charter bears the date 1572, and was formerly represented in Parliament by two members. On the western side of the village, bordering on Wales, lies the Forest of Clun, partially enclosed in 1875 by Act of Parliament, a rough, hilly district in which are five British camps and the most perfect portion of Offa's Dyke. Close to the village is the famous Clun Castle, three sides of whose great twelfth century tower, a stately and majestic mass of stonework, "spring sheer into the sky from the edge of the moat, and the halves of two round bastions with a fragment of wall between them, containing a fireplace and relics of two fourteenth century windows, practically form the whole of the masonry surviving above ground." (I quote from Mr. J. E. Auden's excellent little guide.) This, it is supposed, is the original of Sir Walter Scott's fortress in "The Betrothed":

"The Castle of Garde Doloreuse upon the marches of Wales was a place strong by nature and well fortified by art. It was one of those formidable castles on the frontiers of the ancient British, on the ruins of which the traveller gazes with awe. The river, whose stream washed on three sides the base of the proud eminence on which the castle was situated, curved away from the fortress and its corresponding village on the west, and the hill sank downward to an extensive plain so extremely level as to indicate its alluvial origin. An ancient bridge, a high and narrow combination of arches of unequal size, led to the opposite side of the river, and was about half a mile distant from the castle. Within the walls was the buttery where each March and October the butler brewed mighty ale from the best barley in Shropshire."

. . . . . .

The children's baskets are full of the purple berries, their hands (and mouths!) are stained a rich red purple, and it is to be feared that "Nanny's" heart will break when she sees the nice clean overalls in which they started out!

Reluctantly we "grown-ups" turn our faces homewards, leaving the wonderful panorama of the hills, but mindful of those words of Arthur Symons:

"Peace waits among the hills;
I have drunk peace,
Here, where the blue air fills
The great cup of the hills,
And fills with peace."

The children are tired, but *not* too tired to remember that Mr. Arthur Morris, the Clun baker, makes excellent Bilberry pies, and so perforce we must call and take some back for tea.

Some of the Bilberries we bottle in "Kilner" jars; but the work is tedious, as all the little stalks and bits of leaves must be removed. As I write there is a fragrant fruity smell throughout the house, for most of the purple berries are being boiled up for jelly. The process is simple. First they are stewed in a jar in the oven until quite soft; then strained through a muslin bag. The syrup is afterwards well boiled, adding 1lb. of sugar to every pint of juice, until it sets on a cold plate.

One word more. Should you, Mr. Editor, or any reader of THE GARDEN who is unable to go to Clun, wish to taste what a "Wimberry" is like, I advise you to write to Mr. Thomas Miles, Newport Street, Clun, R.S.O., Salop. His price was sixpence per pound when I last enquired.

Kidderminster. ARTHUR R. GOODWIN.

APPLE BENONI

FIFTEEN years ago I was so impressed with the appearance and quality of this Apple—which somewhat resembles in shape King of the Pippins, but ripens earlier, thus filling a gap between this and Worcester Pearmain—that I planted fifty bush trees of the variety. For some unaccountable reason this is the first year I have had a full crop of fruit from any of the trees, although they have had reasonable attention; the too stiff soil is perhaps the main cause of failure. So disappointing were the trees that many have been regrafted with other sorts, which have succeeded, thus proving its value as an added stock. In quality the flesh is much superior to that of King of the Pippins ripening at the end of September. E. M.

BOOKS

Soil Conditions and Plant Growth.*—No one more capable of writing a monograph on the important subject with which the book under review deals could have been found than the Director of the renowned Rothamsted Experimental Station. This is not a "popular" book, but is written for the student and the worker in other sciences, and for those whose education has fitted them to appreciate the meaning of the investigations which it summarises. At the same time, it is not a dry-as-dust scientific treatise, but a lucid and comprehensive account of our present knowledge of the relationship between the plant and the soil. In this, the third, edition new matter has been incorporated dealing with new points of view, so that the book is well up to date.

Perhaps the keynote of the book is the idea of a "limiting factor," *i.e.*, the fact that the produce of any given crop is limited by the presence of some deleterious or the absence of some beneficial condition. Some of these are known, some are guessed at, and some have, so far, eluded the utmost search of the chemist and the botanist. Perhaps when some unique person shelters under one hat a profound chemist and an acute botanist—one who will not keep the two sciences in watertight compartments, but will bring to bear upon each the light the other can give, and who has at the same time the opportunity of carrying out extensive investigations—some of these problems may be solved. Meanwhile, knowledge is slowly growing, and this book will do not a little to help its growth, for not only does it show what is known, but it also shows what is to be discovered, where gaps in our knowledge occur, and where explanations offered appear to be inadequate to the effect produced.

One important point touched upon more than once concerns us all. Farming and gardening, calling as they do for large quantities of manurial substances, some of which are imported from distant places, are at least as much concerned at the enormous waste of nitrogen and other substances in the sewage of this and other civilised countries. The changes that go on in the nitrogen of the soil form one of the most interesting stories in the whole range of natural history, for they are not purely chemical ones, but depend upon the activities of both plants and animals, and are all set out plainly in this admirable monograph.

Lastly, we must draw attention to Chapters VIII. and IX., for they contain the author's conclusions on "the soil in relation to plant growth" and on "the interpretation of soil analyses." Some of the pitfalls surrounding the latter were alluded to in an article in a recent issue of THE GARDEN, and the chapter here is addressed more to analysts perhaps than to the general public; but all who have an interest in the matter may read it with not a little profit, for much light is thrown upon cultivation by an understanding perusal of it. The chapter on the relation of plant growth to the soil deals with various types of soil and the crops they support, and here again the cultivator may get considerable help; but nowhere is our ignorance made more apparent than in such instances as the following, which we quote from page 195: "Potatoes grown in the Dunbar district are remarkable for their quality; they will stand boiling and subsequent warming-up without going black. The same varieties of Potatoes grown in the same way in the Fens blacken badly under the same treatment, and consequently command a much lower price in the market. . . . Our knowledge of these variations is fragmentary and wholly empirical," says the author, and it must continue to be so, though the problems presented are worth the attention of the most acute minds, until the necessary money for such investigations as are demanded is forthcoming. The results of such investments as are required are certain though not always immediate, so long as suitable men are found to carry out the work. May we hope that after the war a more enlightened attitude may prevail, or rather an extension of that point of view that induced Sir John Lawes to start the Rothamsted experiments which have been a model for the world!

* "Soil Conditions and Plant Growth," by Edward J. Russell, D.Sc., F.R.S. Third edition, 8vo., 243 pages. Published by Longmans, Green and Co., London, 1917; price 6s. 6d. net.

The Sale of Hand-Picked Seed Potatoes

[TO THE EDITOR of "THE GARDEN."]

SIR,—As I was mainly responsible for the seed trade obtaining a special licence to sell their selected hand-picked seed Potatoes at higher prices than greengrocers, I think you may like to have a brief statement from me.

In the first place I have noticed two errors that have appeared in the London papers of August 24. In the *Times* it is stated that we sold 4lb. of Potato Early Rose for 6s.; it should, of course, have read "14lb. for 6s." Obviously a printer's error. There is also a little error in the *Daily Graphic* report as to the amount of fine inflicted, viz., £25 instead of £15.

In case you may not have seen the licence on which I have been fined, I enclose you a copy together with a copy of the original application upon which the licence was granted, as it was thought that the application had a considerable bearing on the construction of the licence. After I had established to the satisfaction of the Board of Agriculture the right of *bona-fide* seedsmen to be treated differently to greengrocers, I was invited to call at the Department of the Food Controller to see Mr. Dennis, where we discussed the issuing of licences to seedsmen. I was asked by Mr. Dennis how the Department could determine who were entitled to licences, when I replied: "By the publication of catalogues by recognised seedsmen, as it was the practice of such to publish catalogues, and as the catalogues were invariably issued in December or January their production with the application for licence would be a guarantee that they were *bona-fide* seedsmen, and that the prices contained therein for specially selected hand-picked seed Potatoes were not fixed at an unreasonable figure." My suggestion was adopted, and the horticultural papers were, I believe, duly informed that seedsmen must supply a copy of their catalogue with the application for a licence.

My solicitor after the trial congratulated me on the complete vindication by the magistrate of both my own personal honour and that of the firm of which I am a member, which, after all, was what the firm and myself were principally concerned in. The magistrate stated there was, in his opinion, no justification for the suggestion that the firm or myself had attempted to "profiteer" at the expense of the public.

GEORGE HEWLINGS BARR.

March 19th, 1917.

The Secretary,
Ministry of Food Control,
Grosvenor House,
Park Lane, W.

SIR,—We beg to make application to you for licence to sell hand-picked seed Potatoes at our Catalogue prices up to May 31st, and enclose copy of our Catalogue herewith.

We are, Sir,
Your obedient servants,
BARR AND SONS.

Ministry of Food,
Grosvenor House, W.1.
21st March, 1917.

GENTLEMEN,—In reply to your letter of the 19th instant I am directed by the Food Controller to authorise you to sell selected seed Potatoes at prices not exceeding those quoted in the catalogue accompanying your application.

This authority, which will remain in force until 31st May next unless cancelled prior to that date, is subject to the condition that not more than 56lb. of seed Potatoes of any given variety shall be sold to any one person.

Comments on "The Garden"

I THINK THE GARDEN for August 25 an "extra speshul," packed with good things. The one which most pleased me was "Desirable Bulbs for Autumn Planting." Crocus Imperati has long been one of my winter joys. I generally have a bowlful for Christmas or New Year's Day. Its variability adds to its charm.

The sly allusion to the promenade of his Satanic Majesty was not lost on me, for *my* last abode *was "a cottage of gentility with a double coach-house"*—though all the *horses* I ever kept there were a clothes-horse and a towel-horse, both lame, and long since departed to a jumble sale.

I *think* it was our reverend friend "J. J." who first made Lachenalias known to me in THE GARDEN; some were sent me from Guernsey and I have grown them ever since. Their weird, witch-like, waxen flowers have a peculiar charm, and they are easy to grow and *last* long. They are quite "An(ne) Amateur's flower." *When* (?) L. Rosemary is as corn in Egypt and coal in Newcastle I hope to enjoy it, and meantime content me with cheaper kinds.

Many thanks to N. G. Hadden for advice to "E.4." She has at once put up the wire-netting and hopes to keep the deer at bay. The salt water for the Cabbage White caterpillars would be a welcome wrinkle if the proportion of salt to water were given. As it is, it has the time-honoured vagueness of "the size of a lump of chalk" and "the length of a piece of string."

Mr. Walter Smyth's notes referring to perfume are to the point; also Mr. Beckett's on Sutton's Blood-red Beet as a bedding plant. I grew this Beet, just as he recommends, some years ago, with great success. It is also one of the best coloured Beets for salad.

Re "Weeding"; I did not refer to that *rara avis* the "properly trained gardener," but to average human beings who work "for love or money" in small gardens and allotments. I worked (pretty hard, too, sometimes) in the kitchen garden long before "women gardeners" were ever heard of. Many a bed of vegetables have I weeded, and planted long lines of Cos Lettuces, and tied them up later on. Benedictions on the man who introduced "self-folding" ones! I only wish he had done it twenty years sooner. It would have spared me many a backache! Of course, there are *some* men who really weed (and *some* "Caledonians" who can discern a joke).

But *the* most important article was that sent by Mr. C. Pearson, "Preserving Fruit in Cold

Water," especially now coals are "*black* diamonds" indeed, and preserving sugar *white* ones! This method seems to me quite likely to succeed, and I am going to try it because, if fruit thus preserved will keep for a year in this climate, it is a better way than my own old one, which has stood the test for forty years or more. I believe Mrs. Rudd's method will prove better than mine for *soft* berries, such as Loganberries, Raspberries, Blackberries and Red Currants. Here in the country, where we have no taps, I propose to fill the bottles with water poured from a kettle, held up as high as possible.

Apple Newtown Pippin was tremendously vaunted to me by two American friends years ago, so I tried it, and, though it fruited (sparsely), it proved in my garden so poor in crop and in flavour that after a few years I got rid of it and put in good old Wellington, which was much better in every way.

I see from the illustrations that the Croydon Rose Garden has greatly grown and improved since, some twenty years ago, I used to trudge through it two or three times a week. It promised *then* to become beautiful.

The concluding paragraph on "Vegetables in the City" recalled to me the time when, as a schoolgirl, I used to cross the City and was sometimes sent to buy seeds at that corner shop in London Wall. I well remember once, in the middle of my order, being overwhelmed by a sudden inrush of City men and "shoved" abruptly down on a sack of Beans, where I meekly (?) sat (the only woman there) until the Lords of Creation finished fighting to get served at the counter. When they departed I arose and completed my order at my leisure (as they had made me miss my train home to Surbiton), while the assistant said, "Sorry, Missie; you see the gentlemen were in a hurry." "Flappers" of to-day would protest against such treatment; but seventeen year old schoolgirls *then* expected to be generally snubbed.

ANNE AMATEUR.

ANSWERS TO CORRESPONDENTS

FRUIT GARDEN.

PLANTING STRAWBERRIES (*A Reader from Connemara*).—If the ground has been well prepared, by all means plant now. If the plants are strong and well rooted, as they ought to be by this time, the roots will become well established in the soil by the end of autumn, and will start strongly into growth next spring and may produce a few fruits.

INJURY TO BLACK CURRANT LEAVES (*W. L. S.*).—The leaves of the Black Currant sent are attacked, so far as two are concerned, by a curious rust fungus. One, however, with blistery spots on the foliage has been the victim of an aphis attack, and, for this, spraying with a nicotine wash is the best remedy. The rust fungus is called Melampsora salicis viminalis. We gave a note with regard to this in a recent issue. Spraying in May with Burgundy or Bordeaux mixture offers the most reliable method of dealing with this pest.

ABOUT APRICOT TREES (*G. E. P.*).—You may use sulphate of iron itself if your soil is lacking in iron, which is hardly likely. Apply as a top-dressing at the rate of 2oz. to a square yard in autumn and fork or hoe it in. The wild Apricot does not grow in this country; it is a native of the Eastern Mediterranean, but no doubt seedlings might be raised in this country by sowing the stones of the ripe fruits. The main trouble in growing Apricots here seems to lie in the difficulty in finding a suitable site, in providing chalk, and in giving protection to the flowers in spring.

OUT-OF-DOOR PEACHES AND STONE SPLITTING (*Mrs. L. B.*).—Stone splitting in Peach fruit is attributed to various causes. But no one has been able to find out specifically the actual cause. We think that the commoner cause is the absence of a sufficient quantity of lime in the soil. In the autumn, as soon as the leaves have fallen, give the border a good watering with lime water. Soak the lime the night before, and use only the clear water on the surface. Then let the surface of the border become moderately dry and take off the surface soil deep enough to expose a moderate quantity of surface roots. Then give a top-dressing, 5 inches deep, of the following soil compost: To one barrowload of turfy loamy soil, add a peck of old mortar rubble, the same of brick ends broken small (to keep the soil open), the same of lime, a gallon of soot, and the same of bone-meal, mixing the whole well together. The soil should be moderately dry at the time it is applied and should be trodden down firmly. Afterwards add a mulching or top-dressing of decayed farmyard manure, 4 inches deep, over the roots on the surface of the soil.

MORELLO CHERRIES CRACKING (*J. M.*).—We could have better told the cause of the cracking of the berries had you sent us a piece of the branch on which they grew. The fruit must have had a check at the time it was about half-grown, which had the result of contracting the skin of the fruit and preventing it swelling afterwards as growth took place; hence the cracking. This tree is subject to attacks from a disease termed "silver-leaf." It occurs to us that this might have caused the trouble. It is very seldom that anything ails the fruit of this tree.

KITCHEN GARDEN.

COLOURED BEANS (*W. B.*).—The prettily flaked gold and red Bean sent is of the "Painted Lady" type. It is not an uncommon occurrence for one or two to turn up occasionally among the normal Runner Beans.

TOMATOES NOT COLOURING (*Robin Hood*).—This Tomato is not suffering from a disease, but from a fault which is characteristic of a few varieties, including this one, evidently. It does not affect the bearing of the plants, so that no serious loss has been suffered. The remedy is in your own hands—do not plant the variety again.

PEA EDWIN BECKETT (*W. A.*).—Pea Edwin Beckett was first distributed by Messrs. William Cutbush and Son of the Highgate Nurseries, Highgate, London, N., from whom it can still be obtained. This variety is of the highest excellence, and is considered to be one of the hardiest and most prolific yielding Peas of the present day; it is certainly one that all growers should cultivate, especially where there is a heavy demand for this vegetable.

FLOWER GARDEN.

INJURY TO ANTIRRHINUMS, DELPHINIUMS AND ANENOMES (*M. L.*).—No fungus is likely to cause such widespread damage as that which you describe on the various plants in your garden. The fact that so many different ones have suffered points to some condition of soil or cultivation, such as bad drainage or drought, or exposure to chemical fumes or something of that kind, being the cause, rather than the attack of a fungus or other pest.

SUNNY BORDER (*D. P. B.*).—The best thing in the flower line for your sunny border would be a selection of Bearded Irises, which you may plant with safety in September. Following the treatment you suggest, there should be every hope of success, and there is no flowering plant the year through more fascinating than the modern Flag Iris. The following are good sorts: Mrs. Darwin (white and violet), Gracchus (primrose, veined purple), Rhein-Nixe (white, narrowly edged violet), Jacquiniana (coppery crimson and maroon), pallida dalmatica (tall, pale blue, most handsome), Queen of May (pink), Mrs. Neubronner (golden), Innocenza (pure white), Princess of Wales (pure white, early), Honorable (rich golden and violet), Mme. Chéreau (white, edged blue) and Maori King (golden and maroon). Newer sorts would be Prosper Laugier, Iris King, Isoline, Lohengrin, Ma Mie, Alcazar, Ed. Michel, Gold Crest and Her Majesty. In planting keep the rhizomes—the thick, fleshy roots—quite near the surface. The Gooseberry to which you refer is probably Rough Red, though you will find Red Champagne and Warrington equally good for the purpose. Write to Mr. J. C. Allgrove, Middle Green, Langley, Slough, who specialises in these fruits, telling him of your needs.

MISCELLANEOUS.

LEGAL POINT (*Mrs. P.*).—You will have no right at the end of the term of agreement to remove the fruit trees which you contemplate planting in the kitchen garden, unless the lease specially authorises the same. Were it not so, a tenant would be able to plant the whole of a garden with trees, and thus greatly damage the letting value of a property. Again, supposing that the tenant had the right to remove all the trees at the end of the term, it might so happen the garden would be left a barren waste, which would be very unfair to the landlord.

VARIOUS QUESTIONS (*Torquay*).—It is not possible to name the Kale from the fragment sent, though any good gardener might do so if shown the growing crop. The Lavender is Santolina incana; it is popularly known as Cotton Lavender. The Currant leaves are affected by the Black Currant anthracuose (Gloeosporium Ribis), the remedy for which is spraying with Bordeaux mixture. It is, however, late to do this now, and should be commenced early in the season in order to keep the disease in check. If the bushes are badly affected, the worst may be cut out and burnt, and spraying resorted to also. In any case the affected leaves should be destroyed.

NAMES OF PLANTS.—*J. F. A.*—1, Teucrium Polium aureum); 2, Tragopogon orientale; 3, Hemerocallis fulva var. flore pleno; 4, Hypericum calycinum.

Dunkeld Allotment Society.

A VERY interesting gardening lecture was given on behalf of the above society, and for the benefit of allotment holders generally, by Mr. E. T. Ellis on August 21 at the Sheffield University at 8 p.m. There was a fair attendance and great interest was shown. Mr. Ellis dealt with the subject of harvesting and storing vegetables in a simple, comprehensive and practical manner, and illustrated his lecture with large sketches. It is hoped that the series of lectures to commence in October will be useful and interesting.

Mr. F. Herbert Chapman.—Great sympathy is extended to Mr. F. Herbert Chapman on the loss of his only son, Montague Herbert, killed in action in Flanders on August 14. He was a second-lieutenant in the 10th Battalion of the Rifle Brigade, and was carrying out a very brave and daring deed on an advanced post at the time of his death, which was instantaneous. His Commanding Officer in a letter to Mr. Herbert Chapman, in referring to his last brave act which saved a critical situation, says: "He was a very, very brave officer, and I cannot tell you how I feel his loss."

Agricultural Returns. 1917.—The Preliminary Statement of the Agricultural Returns for England and Wales, collected in June last, shows that about 190,000 acres of permanent grass have been brought under the plough since June, 1916, the arable area being 195,000 acres more than a year ago. The acreage under Wheat is slightly greater than a year ago, a decrease of 63,000 acres in that sown in the autumn being rather more than counterbalanced by increased spring sowings. Barley and Oats are being grown more extensively than last year, the former showing an increase of 128,500 acres and the latter one of 173,000 acres; the area under Oats is the largest recorded since 1904. Of the pulse crops, Beans have been reduced by 25,000 acres and Peas increased by 18,000 acres as compared with last year. The acreage under Potatoes has been increased by 80,000 acres, or nearly one-fifth, and is about 10 per cent. greater than the highest previously recorded. The area under roots has also been extended, Turnips and Swedes by 34,000 acres, and Mangolds by nearly 11,000 acres. Green fodder crops have been grown on reduced areas. Mustard has lost the large increase recorded last year, and the area is now below that of 1915. Bare fallow was reduced by 66,500 acres. The area of Clover and rotation grasses is 90,000 acres less than last year, nearly all the reduction being in that reserved for hay. The area from which meadow hay was taken also shows a reduction, and altogether the hay area is down by nearly 108,000 acres.

National Rose Society. — Instead of the usual autumn show the National Rose Society will hold a non-competitive display of Roses in the London Scottish Drill Hall, Buckingham Gate, Westminster, on Tuesday, September 11th, from 1 p.m. to 6 p.m. The show will be on the lines of the customary fortnightly shows of the Royal Horticultural Society—that is to say, there will be no competition, but awards of medals and certificates will be made to such exhibits which the judges may consider worthy. All sections of members, whether nurserymen, amateurs and the ladies, are invited to exhibit. As it is a sort of go-as-you-please Rose show, everyone should bring something. There will be no classes; only three divisions—one for new seedling Roses, one for nurserymen, and one for amateurs. The maximum amount of space of flat staging allowed to each exhibitor is as follows: Nurserymen, 15 feet run; amateurs, 5 feet run. The method of staging and arrangement will be left entirely to the discretion of the exhibitor, but the chief points for consideration of the judges will be: (1) The quality and freshness of the blooms; (2) the general artistic effect and method of arrangement. It is hoped that as many members as possible will stage an exhibit. Further particulars may be obtained on application to Mr. Courtney Page, 25, Victoria Street, S.W.1.

*** *The Yearly Subscription to* THE GARDEN *is: Inland* 10*s.* 10*d.*; *Foreign*, 13*s.*

FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

WINTER egg-production should for the most part be left to the pullets, and those who read my notes regularly will follow my ruling.

Pullets v. Hens.—I again repeat my slogan, "Pullets for *eggs* and hens for *chicks*." If this formula is put into practice the best results will accrue. In the first place, matured hens lose that nervousness which is a characteristic of the young pullets, with the result that they produce more fertile eggs. The latter, too, are larger than those from pullets, and the resultant chicks are robust and of a good size. Sometimes one cannot help using pullets, but in such cases it is wise to mate them to adult cocks. Again, the older the hen becomes, the longer she takes over the moult, so that unless the poultry-keeper hastens the moulting, the adult hens will not have finished the casting of their feathers ready for early laying.

Eggs and Chicks.—It is not wise to endeavour to obtain both eggs and chicks from pullets in the same season. It might be done occasionally, but its regular adoption will not improve the stamina of a strain. The poultry-keeper will readily understand that it is unreasonable to expect a pullet to lay heavily all the winter and then to engage in breeding operations without any period of rest. Far more profitable is it to rely principally on the pullets of the season's hatching for winter eggs, and on the adult hens for spring chickens. If each pullet is retained specially for laying the first year, she can be allowed to moult late to spend her second season chiefly in the breeding pen. Where all the layers are trap-nested during their first or "pullet" year, their egg-scores can be examined and the best performers used in the breeding pens.

The Laying Pullet.—The ideal pullet is the one that is hatched out in mid-March for heavy breeds, or in mid-April for light or non-sitting varieties. Every poultry-keeper should start the winter egg-season with a goodly number of such birds, and it is here that so many go wrong. Those interested in the sale of day-old chicks invariably dispose of all the chicks they can. They bestow no thought upon the "home" stock needed for winter laying. So long as there is a demand for young chickens they readily part with all they have on the farm at the time. There is one thing more than another in which the owner must be mean, and that is in respect of his March and April chickens. Before a chick is sold the poultry-breeder should make his arrangements so that a given number of pullets will be reared for "home" use. These will be needed for winter laying, and the matter upon which I write is of vital importance to those desirous of obtaining full egg-baskets from October onwards.

Systematic Rearing.—Systematic breeding and rearing should be practised by every poultry-keeper, whether he is in a large or small way. Let him decide early in the season the number of hens he proposes to dispose of and the number of pullets he intends to rear. Then he must not rest contented until he has made sure that he will have the correct head of pullets when the winter comes round. The usual plan is to possess half hens and half pullets at the beginning of each winter egg-season. If the pullets of the current year's hatching are in the majority, so much the better from the view-point of winter egg-production. Apart from likely deaths, it is safe to allow for half of the young stock reared to be cockerels, and to hatch out, therefore, at least twice the number of chicks as pullets required. With this object in view each poultry-keeper should commence the season's breeding operations, and if he is short of the required number of pullets, let him in the autumn buy pullets of the right hatching to make up the deficiency.

Permanent Winter Quarters.—Even when the poultry-keeper has secured sufficient pullets of the correct hatching, he may fail as regards the winter egg-baskets owing to bad handling of the stock. The average owner is too fond of shifting his pullets to strange quarters just as they are on the point of laying. This is a great mistake. I like to get my pullets into their winter quarters by mid-September, and then I am sure of an early egg-supply. This plan will allow the birds to get used to their new environment and to settle down in time for October or early November laying. The moving of the birds will invariably put them off laying or make them postpone their initial effort. That is why it is best to group up the young stock into sizes and to run the pullets in their permanent winter quarters as they come to maturity.

Quietude Necessary.—Pullets are nervous little creatures—a point owners must not overlook. On no account should they be unduly disturbed from the time they are placed in their winter quarters until they commence to lay. Do not be continually entering their house and banging doors, and do not allow noisy dogs or youngsters to upset them. Where possible, let the same person feed and tend the birds right from mid-September until laying commences. Do not go down to the runs clothed in a different garb each day, as it is really surprising how scared young pullets are if they notice the owner wearing white for the first time. Many poultry-keepers will regard such precautions as involving too much trouble. To these I would say that it is attention to such small details which scores so heavily in successful egg-production. It is a good idea to school the pullets almost from birth to be docile. They will then grow accustomed to their feeder and will show much better egg-results than their wild, unschooled sisters. Many complain that they do not like White Leghorns or any of the non-sitting breeds because they are so wild. To these I would say that proper handling from birth will rectify any tendency towards this state of affairs.

Even Flocks.—Where a goodly number of pullets are reared, it is important that the flocks should be even. By this I mean that the members of each lot should be about the same size and at the same stage of development. This is quite an easy matter where the birds are systematically handled, grouped and re-grouped. As maturity is reached, the most forward pullets should be placed together and the backward ones separately quartered. The latter can then be forced on a bit by special feeding, whereas if backward and forward youngsters are run together all must be treated alike. This is not to be recommended, as the food that best suits one lot of birds will not be ideal for the other ones. Backward pullets can be brought on by the use of fish-meal up to, say, 10 per cent. in the mash, and by providing occasionally two meals of soft food per diem. On the other hand, the more forward ones, if too early laying is suspected, will need a less liberal diet and grain rather than mash.

Forward or Backward?—From my remarks it will be agreed that the best plan is to group the pullets as they reach maturity, according to their degree of development. Where the owner possesses many flocks of pullets he will be able to tell which are the most forward and *vice versa*, and as he gains experience he will be able to surmount all difficulties as regards this matter. The colour of the head-points is the best guide to go by, the hue varying from a dull pink up to a bright coral red, according to the degree of development. Any backward pullets, then, should now be hurried along, free range being allowed such birds, and a liberal diet. My remarks apply equally to purchased birds. If upon arrival they are too forward, the owner need not worry, as the journey and new environment will retard them. Any backward ones, however, should be carefully handled and pushed along. It is surprising how readily *backward* pullets shoot along if properly handled, but no delay must be made.

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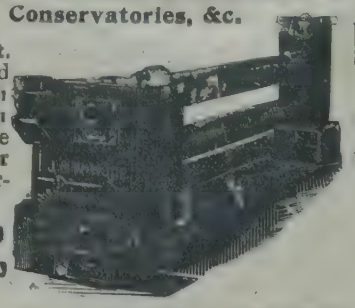

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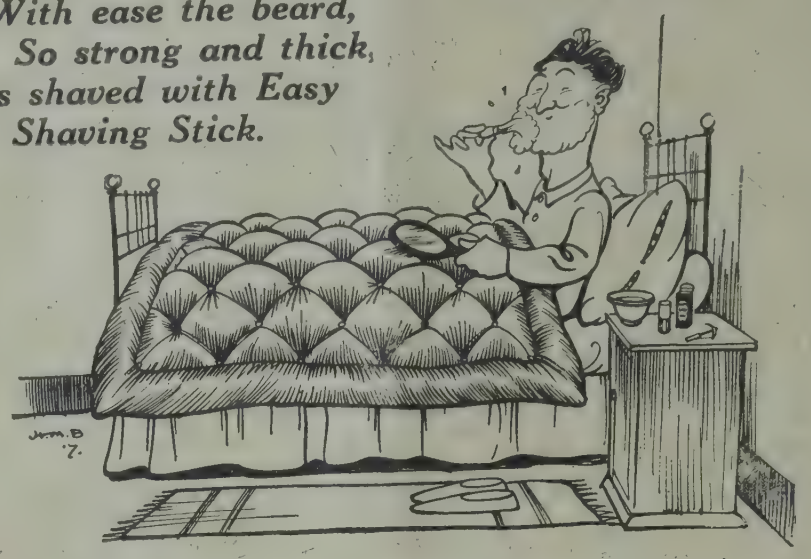

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FOR OTHER VARIETIES, SEE LIST.

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lara Butt, pale rose pink	1/6	10/6
onders, rich shining dark red	1/9	12/6
rguste, fine dark heliotrope	3/–	21/–
urope, carmine scarlet	2/3	16/–
is, glowing crimson-scarlet	2/6	18/–
oveliness, charming bright rose	1/6	10/6
ladame Krelage, rosy carmine	2/–	14/6
laiden's Blush, delicate blush-pink ...	1/9	12/6
largaret, soft blush-pink	1/3	9/–
lr. Farncombe Sanders, finest scarlet	2/–	14/6
ride of Haarlem, large rosy crimson ...	1/9	12/6
almon King, rose, shaded salmon ...	1/9	12/6
uzon, large pale rose and blush	2/6	18/–
ac van Poortvliet, glowing salmon-scarlet	1/9	12/6
/hite Queen, white, slight blush at times	2/3	16/–
ine Mixture, all colours	1/3	9/–

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Bees' Guarantested Fertilizer for Bulbs; to be applied before planting at the rate of two tablespoonfuls per sq. yd.; produces most excellent results. 7lbs. **2**/-, 14lbs. **3/6**, 28lbs. **6**/-, cwt. **20**/- carr. paid

DARWIN TULIPS

***†Rev. Ewbank,** rosy heliotrope, outdoors, in pots, a most entrancing, softer shade of the same colour. **2**/- doz.. **15**/- 100

***†Loveliness,** satin rose, most beautifully toned and shaded blush pink. **1/6** doz., **11/6** 100

***†White Queen** (La Candeur). The nearest approach to a white Darwin, almost pure white indoors, outdoors it is shaded blush.
1/6 doz., **11/6** 100

†Margaret, rosy pink, shaded salmon and silvery white; very attractive. **1/2** doz., **9**/- 100

***†Erguste,** mauve shaded lavender: a most delicate and beautiful shade when grown indoors.
2/- doz., **15**/- 100

†Baronne de la Tonnaye, deep cherry rose, shaded blush, edges of petals delicate pink; very charming. **1/2** doz., **9**/- 100

†Sultan, glossy maroon bronze, shading to intense black.
1/6 doz., **11/6** 100

***†Laurentia,** deep rosy pink, shaded carmine, rich blue centre.
1/2 doz., **9**/- 100

***†Phyllis,** heliotrope shaded grey, flushed rose. **1/6** doz., **10/6** 100.

Darwin Tulips (mixed), a fine blend of colour.
1/- doz., **7/6** 100

MAY FLOWERING or COTTAGE TULIPS.

These tulips are excellent for bedding, and may be used with confidence in place of the Dutch tulips which are not available this year. Height about 18 inches.

†Golden Crown, bright golden yellow, edged and flushed scarlet; a strikingly effective bedding and border tulip. **10**d. doz., **6**/- 100

***†Routon d'Or,** practically a golden yellow Darwin; quite the best hardy yellow tulip; a rich effective colour and a certain success everywhere. **1**/- doz., **7/6** 100

***†Gesneriana major,** brilliant glowing scarlet; dazzling blue centre; one of the most gorgeous.
1/- doz., **7/6** 100

Gesneriana oculata, scarlet, with white eye and blue centre, very striking. **10**d. doz., **6**/- 100

†Macrospila, splendid glowing crimson, shaded scarlet, with intense blue-black centre, and a pleasant spicy fragrance.
8d. doz., **5**/- 100

Caledonia, glowing orange scarlet; like a veritable flame; very distinctive and striking.
1/- doz., **7/6** 100

***†Parisian Yellow,** clear rich yellow; a deep, elegantly pointed flower; showy and reliable.
1/- doz., **7/6** 100

COTTAGE TULIPS

***†Inglescombe Yellow.** For perfection of form and colouring this tulip has no rival. Of large size, almost spherical when fully grown, and of a deep canary yellow colour possessed by no other tulip, it is a joy to see it growing.
1/10 doz., **14**/- 100.

***†La Candeur** or Parisian white, a handsome white tulip, for bedding and cutting, does well in pots.
1/2 doz., **9**/- 100

†Gesneriana Rosea, handsome cherry rose flowers, shaded carmine; very large and fine.
10d. doz., **6**/- 100

†Rosalind, a sweet and charming tulip, beautiful cherry carmine shaded rose with white centre.
1/- doz., **7/6** 100

†Picotee, or Maiden's Blush; one of the daintiest of tulips; charming white, edged and feathered with rosy cerise, especially in the later stages.
1/- doz., **7/6** 100

Cottage Tulips (mixed); a showy mixture of colour for bedding. **9**d. doz., **5/6** 100

MISCELLANEOUS.

***†St. Brigid Anemones,** a grand mixture of huge flowers, mostly semi-double, colouring gorgeous in the extreme; vivid scarlets and glowing blues with every attractive intermediate shade; should be freely used for bedding; do well in pots. **1**/- doz., **8**/- 100.

***†Winter Aconite,** the golden or butterfly yellow gem which carpets the ground in March; recommended to be used in place of crocuses. **6**d. doz., **3/6** 100

***†Scarlet Anemone** (fulgens), dazzling scarlet, with few exceptions the most brilliant outdoor spring flower. **1**/- doz., **7/6** 100

***†Bluebells,** mixed shades of blue, &c.; charming in pot or border. **7**d. doz., **4**/- 100

†Blue Spanish Iris, very scarce; fine home-grown bulbs.
1/- doz., **7/6** 100

†Mixed Spanish Iris.
8d. doz., **5**/- 100

†White English Iris, handsome large white flowers.
1/- doz., **7/6** 100

†Mixed English Iris, quite hardy outdoors. **1**/- doz., **7/6** 100

***†Double Snowdrops,** very charming in pots of fibre or soil; do well indoors or out.
Top size, **10**d. doz., **6**/- 100
First size, **7**d. „ **4/6** „

***†Single Snowdrops,** the true English Snowdrop, the one which grows and multiplies in border or woodland; does well in pots.
Top size, **10**d. doz., **6**/- 100
First size, **7**d. „ **4/6** „

***†Blue Star of Bethlehem** (O. pyramidale), very handsome spikes of rich blue flowers; may be grown in pots or border.
3d. each, **2/6** doz.

Varieties Specially Recommended *for growing in pots or bowls, in soil or fibre, or in the open ground, in beds or borders, are denoted as follows:—*
** indicates suitability for pots and bowls.*
† „ „ „ beds and borders.

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THE GARDEN.

No. 2390.—Vol. LXXXI.] [September 8, 1917.

NOTES OF THE WEEK

THE advice given by our worthy correspondent "Anne Amateur," page 377, on using windfall Apples for making spiced conserve, is very opportune. At the present time windfalls, or "drops" as they are known in the trade, are flooding the market at Covent Garden. The supply is greater than the demand, and we saw stacks of Apples in the market recently which would have been better employed on "Anne Amateur's" heap to be made into cyder. The best of the windfall Apples were being sold for 2s. a bushel (about 40lb.). At the same time it is worth noting that Apples carefully picked and packed in boxes were being sold at the rate of 10s. to 18s. a bushel.

Transplanting Sorrel for Winter Use.—Sorrel is much appreciated with salads in winter when an acid flavour is desired. The broad-leaved kind is generally considered the best. The leaves are also often used as a vegetable, being boiled like Spinach. The seed is sown in spring, but now is the time to remove plants to their final position, allowing 1 foot or 18 inches between them each way. Sorrel likes a deep, friable soil. When growth ceases for the season it is not a bad plan to give a liberal dressing of rich decayed manure.

Apple Newton Wonder.—Both the habit and fruiting qualities of Newton Wonder are all that one could wish. Young trees have made very satisfactory growth this year—satisfactory because the young shoots are so strong, short-jointed and give promise of ripening well. The trees were planted at first in small plots of trenched ground, the surrounding portion being grass; but last winter the whole was trenched and rows of Gooseberries planted between the Apple trees. The latter have been much benefited. Newton Wonder is a good companion to Bramley's Seedling, but the fruits keep much longer in a firm condition.

Trapping Slugs and Snails.—A little heap of bran on a Cabbage leaf is a very old device for attracting these pests, and is still one of the best methods of securing them. Funkias in pots are apt to have their handsome leaves badly holed, but a few enticements of bran and Cabbage leaf on warm summer evenings will be pretty sure to be effective. They should be put down at dusk and visited after dark.

AN OLD DEVICE FOR TRAPPING SLUGS.

Trial of Perpetual-Flowering Carnations.—A trial of Perpetual-flowering Carnations will be held at Wisley during the coming season. Three plants of each variety, together with the necessary entry forms, should reach the Director, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey (station—Horsley, L. and S.W.R.) by September 30. Forms of entry (one for each variety) can be had on application to the Director at the above address.

Peach Dymond.—The question is often asked by the amateur, "Which is the best Peach to grow under glass or in the open?" Our correspondent "E. M." writes: "I almost invariably say 'Dymond,' because it has all the properties of a good Peach and, besides, is hardy, of free growth, and succeeds well with either a southern or a western exposure. Outdoors it ripens at the middle of September. The flesh is white, rich, melting, very juicy, highly flavoured, and slightly stained with red at the stone, from which it separates freely. I do not recommend this Peach for early ripening under glass; but where fruit is required, say, in August, without the aid of artificial heat, then Dymond is the Peach to grow. Like all other varieties, even this can be spoilt by mismanagement, too rich a soil, and overcrowding of the branches."

Peach Peregrine.—For an open south wall this is quite one of the best of Peaches. In growth it is all that could be desired, showing no trace of blister or mildew, growing vigorously, and bearing heavy crops of full-sized, highly coloured fruit. What is of more importance still, the flavour is of the best. For years we, like "E. M.," regarded Dymond as one of the most useful of outdoor Peaches, but this must give way to Peregrine. Its season is the second week in August.

Sale of Maincrop Potatoes.—It is announced by the Food Controller that the restriction imposed on dealings in maincrop Potatoes before September 15 has been removed. The object is to allow farmers whose Potatoes have been attacked by disease or water-logged, and have had to be lifted, to dispose of their crop without delay. Growers are asked not to lift immature Potatoes unless it is absolutely necessary, and both growers and dealers are reminded that in the interests of the conservation of food it is important that second-earlies should be disposed of before any considerable portion of the main crop is put on the market.

Rose William Cooper.—Nowadays, when so many new Roses are scentless, one doubly appreciates a fragrant variety. The subject of this note was sent out by Messrs. Hugh Dickson in 1914. It is certainly one of the most fragrant Roses we have, and, being of a perpetual-flowering habit, is all the more valuable. The blooms are large, with massive petals; in fact, we do not know of a Rose to equal it in this respect. The colour is a deep rich lake red. It is a strong grower and absolutely free from mildew.

Mr. Thomas Stevenson.—After a highly successful career as a cultivator and exhibitor, Mr. Thomas Stevenson is shortly leaving private service to join the firm of Messrs. Lowe and Shawyer at their Uxbridge Nurseries as one of the directors. We congratulate Mr. Stevenson on his appointment and wish him continued success in his new sphere of activities.

Messrs. William Wood and Son, Limited.—We are pleased to learn that the fire which destroyed the offices of Messrs. William Wood and Son, Limited, Horticultural Specialists, Wood Green, London, and a small portion of the warehouses is in no way interfering with the execution of orders and the conduct of business generally. Temporary offices have been secured, and the stock damaged in one warehouse is being rapidly replaced. Several large warehouses were untouched.

Golden Wedding of Sir Frank and Lady Crisp.—Congratulations to Sir Frank and Lady Crisp, who have just celebrated their golden wedding. Their well-known garden at Friar Park, Henley-on-Thames—and may they long be spared to enjoy it—has many times been illustrated in our pages, and the last volume of The Garden was dedicated in honour of Sir Frank Crisp. The garden has given pleasure to thousands, from the richest to the poorest in the land. By way of celebrating this occasion Sir Frank and Lady Crisp entertained inmates of the Poor Law Institution.

Gift to the Gardeners' Royal Benevolent Institution.—To commemorate the fiftieth anniversary of their marriage, Sir Harry and Lady Veitch have given £500 as a golden wedding gift to the Gardeners' Royal Benevolent Institution.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

PLANTING POTATOES WITH A DIBBER.

MY experience of planting Potatoes with a dibber is quite the reverse to that recorded by Dr. Osburne, page 318, August 11 issue. In fact, no other method has been practised in these gardens for many years—with the exception of a few earlies forwarded in boxes—and the results have been excellent in every respect. The soil here is somewhat light and porous, but quickly binds if trampled on in wet weather, so that precautions against this must be exercised at the time of planting the Potatoes. Our *modus operandi* is as follows: The soil having been dug to a good depth some time previous to the time of planting, a line is strung along, a man prepares the holes with a foot dibber, and a boy follows and drops in the seed Potatoes with the main eyes pointing upwards. The ground between the rows is then given a gentle heave with a fork, the holes filled in, and the surface made loose and level, which completes the work at that time. I have great faith in giving the land a gentle heave between the rows to loosen the soil, the results of trampling, especially if somewhat wet, so that the roots may travel at their will. The dibber we use is quite 9 inches in circumference and blunt at the point. I have, too, like your correspondent "Interested," seen this year some very poor results from Potatoes planted without a dibber—in fact, most carefully planted—the tubers being the cause, and not the planting.—H. MARKHAM, *Wrotham Park, Barnet.*

I AM much interested in the discussion on "Dibbing Potatoes," and must confess to be one of its victims, though not with regret. We grow about three-quarters of an acre of main and late crop varieties, all of which are dibbed and which always give us good returns. Let me here state that were I dealing with heavy soil I should adopt the old-fashioned plan of digging and planting together, but where soil is light or medium my experience has taught me that the best results are obtained by double-digging and manuring in winter, leaving the surface as rough as possible (we all know what we do that for), and when planting-time comes round choose a day when the soil is in good condition, go over it with a "turn prong" (an old four-grained fork bent square and put in a long handle makes an ideal tool for this), working the soil 4 inches or so deep. With a few hours' sunshine on this it gets in good planting condition. We then set about the planting, going along the line making holes with *our dibber*, viz., an old edging-shear handle with a foot-rest screwed on one side 6 inches from the bottom, leaving the bottom flat just as it came off the shear, with ferrule and all on. This when pressed to the soil level each time makes a hole 6 inches deep and about 2½ inches in diameter. After the sets are in, the "turn prong" again goes over, this time not quite so deep, which leaves the surface loose to admit air and warmth. Providing we have good seed, the plants appear evenly all over the plot, and we find we get better returns than when we used to dig and plant, as the walking over at planting-time just gives the required firmness without being in any way hard or lumpy; but perhaps I might add that the seed is a very important part. My belief is that seed should be obtained as early as possible, laid out to "green," and kept in a cool shed all the winter with as much light as possible; then one obtains the first breaks which, to my mind, always produce by far the heaviest crops. The seed need not be planted until the second week of April, when the soil is warmer and in better condition for quick growth.—C. GOODCHILD.

IT will doubtless interest both the advocates of planting the Potato with a dibber and those who are opposed to the method to know that one of the members of the Sutton St. Barnabas' Gardeners' Mutual Improvement Society in 1916 raised the prodigious total of 364½lb. of produce—roughly, 1lb. of Potatoes for every day in the year—from a single pound of seed tubers. The variety was the second-early sort Colleen, the seed Irish, from an Irish source. The sets were planted with a dibber, albeit the raiser of this record crop attributed his success not to the tool with which he inserted the sets in the ground, but in far greater measure to early, deep and generous soil preparation, to the primary manurial aids employed being incorporated with the soil in advance of planting, and to intelligent cultivation subsequently. In a word, he attributed his success to cultivation and that phase of it in particular which leaves nothing undone which ought to have been done. The record crop named was neither the result of an accident nor was it brought about by questionable or extreme methods of propagation. For a decade or more the society named has been promoting Potato-growing competitions among its members, with the result that not a few of them, having learnt practically all there is to learn about Potato-growing, have become experts in the highest sense of the term. Conditions of the competition, while permitting each competitor to sprout and cut up his Potato sets in the way he deemed best, debarred all from the use of glass and resorting to cutting propagation. In previous years the approaches to the record crop of 1916 have been 339lb. and 324lb. raised from a like amount of seed. All sets are cut, planted, and subsequently raised in the presence of the Hon. Secretary, Mr. P. C. H. Jay, who in the year named saw 114 lots so treated—a splendid tribute to the whole-hearted zeal for the society he serves so well.—E. H. JENKINS.

THE TEMPLE OF THE SUN AT KEW BEFORE THE STORM.

SALT WATER FOR "CABBAGE WHITES."

IN reply to "Anne Amateur's" comment, no proportions for the brine were given me, but I find that a double handful of salt to a 2½ gallon can is sufficient. Plants syringed with this solution appear to be distasteful to the butterflies, and they do not settle or lay their eggs on them. August 27 brought a few very welcome hours of sunshine, and the Buddleia was alive with quite a crowd (for us) of Red Admirals and Peacocks. Even our Welsh terrier sat and gazed in admiration at a perfect specimen of Vanessa Io outspread on the ground before him.—W. D., *Altrincham.*

BOTTLING FRUIT IN COLD WATER.

IN reference to the bottling of fruit in cold water, we have tried our 'prentice hand at this, and at once found a little pitfall waiting—"there's always plenty, bless 'em!" No matter how forcibly the water tap was made to run, we found that innumerable tiny air-bubbles were formed all over the fruit, and these, after a time, coalesced and formed a big one. To get over this difficulty we put each Plum in the bottle *under* water, after rubbing it all over to remove the bubbles of air. By this method one can dispense with the tap altogether. This may be of service to "Anne Amateur," that cheerful person; I wish I could meet her and talk gardening.—LEWIS F. BARTON, *Woking.*

THE TEMPLE OF THE SUN AT KEW.

IN your issue of April 8 last year I find an illustration of this Temple as destroyed by the fall of a neighbouring Cedar of Lebanon, brought down by the storm of March 28. It was admittedly a beautiful building, and in case you care to place it on record as it was before the storm, I send you a photograph that was taken by my son, Lieutenant Lynch, when at Kew. It shows the building as erected by Sir William Chambers in 1761, also the Cedar above referred to, which was planted at about the same time. This Cedar came from the Duke of Argyll's garden at Whitton, and, after growing beside the Temple for over 150 years, at last accomplished its destruction, ending its own career at the same time. The Temple lasted wonderfully well if, as I have been told, it was built chiefly of lath and plaster.—R. IRWIN LYNCH.

GILIA CORONOPIFOLIA.

GILIA CORONOPIFOLIA, or to give the plant Sweet's English name of his "British Flower Garden" (Second Series, Vol. III., plate 289), Buck's-horn-leaved Gilia, is a plant and no mistake. Should I be fortunate enough to spend eternity in Paradise, I hope it may be there. Were I ever to publish a great garden book like Parkinson's and insert in it a similar frontispiece to his, this Gilia would not be omitted. The same joy awaits those who know it not as awaits those to whom Pickwick and Nicholas Nickleby and David Copperfield are unknown.

It is true a great gardener friend who kindly named it for me somewhat sniffed at it. "It would be one of the best of plants were it not monocarpic," he wrote. This, too, from one who does not, I know, altogether appreciate Perpetual-flowering Carnations! Why should being monocarpic put it out of court? I would like to do battle for annuals and biennials, but space forbids in war-time. So now for a prosaic description: G. coronopifolia is tall and slender in growth; its divided, glaucous green, somewhat downy foliage has a distinct resemblance to the antlers of a deer. Its main stem is well clothed with branches, on which are hung brilliant scarlet, long-tubed blooms with their expanded petal parts delicately marbled. I have a fine example in a pot in a cold greenhouse, and I have another in a dry border slightly shaded with the boughs of a Birch, where it lived all last winter—the one survivor out of five. In catalogues it is described as a half-hardy biennial, but it must be very nearly hardy. It came to England from Carolina and Georgia as long ago as 1725. My seed came from British Columbia.—JOSEPH JACOB.

DUCKWEED.

I WAS interested in your reply to "Wolseley" (August 18, page 339) on this subject, because the pool in my new garden is infested with this weed, also the three tanks adjoining it. Flannel Weed was also troublesome, but persistent doses of copper sulphate have almost eliminated this pest, and the Duckweed is now in full possession. Perhaps you or one of your readers can tell me if such fish as tench would keep it down in any way. I notice that it is generally worst on stagnant pools in which there are no fish. Ducks and other waterfowl would soon get rid of it, but then, they are bad gardeners. Last winter I cleaned out both pool and tanks, and as they are surrounded by Oak trees, I secured a rich haul of silt composed of sand and rotten leaves. In the spring I used some of this for top-dressing a rather shady herbaceous border, and some time afterwards I noticed a number of little seedlings (which at first I took to be those of Arenaria balearica) coming up all over it. Soon they spread into a perfect carpet, and it is only quite recently I discovered that they were plants of Lemna minor, the Duckweed. Is it not unusual for this plant to grow away from water?—ARTHUR R. GOODWIN, *Kidderminster*.

[It is not usual for Duckweed to grow away from water for any considerable length of time, although when ponds have partly dried up during a period of drought a certain quantity of the weed may be found alive, quite clear of water, on the mud or wet ground which formed the bottom of the pond. Coarse fish may help to keep the water clear, but the presence of waterfowl is not always effective.—ED.]

BULBS FOR THE ROCK GARDEN.

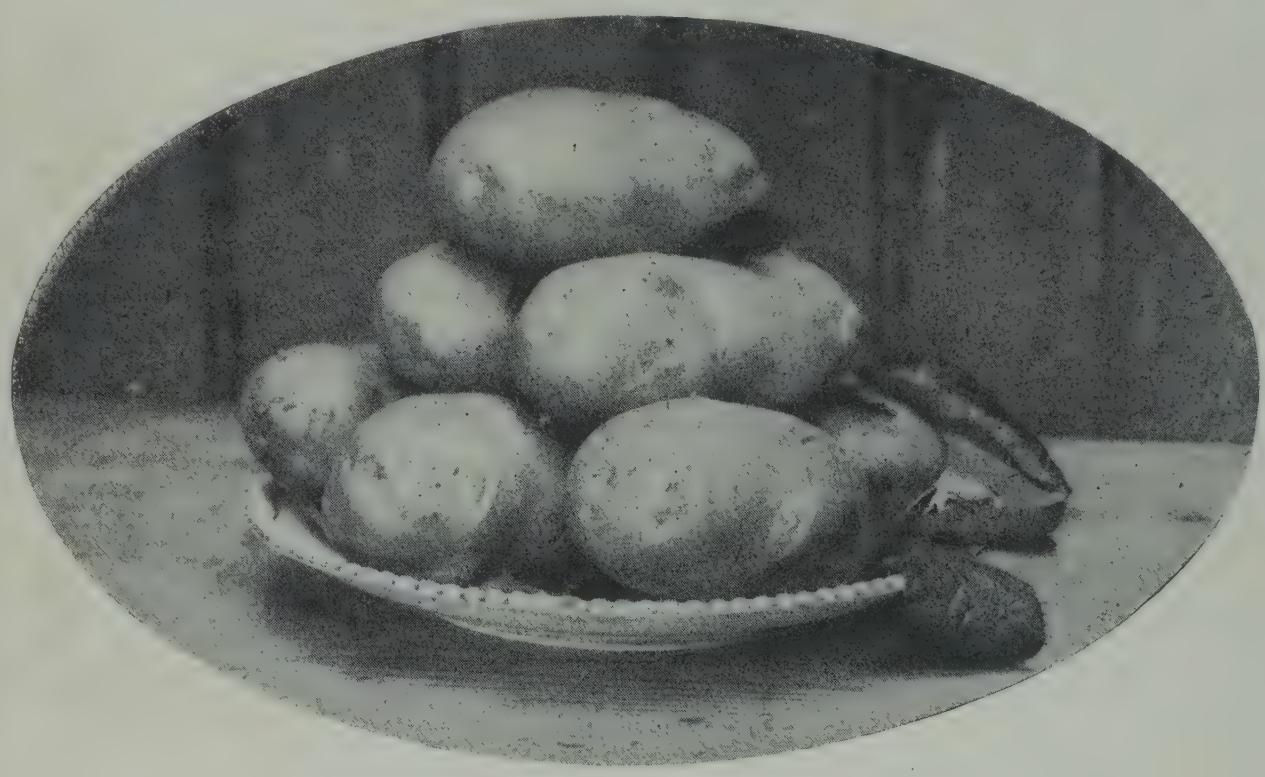
I WAS much interested in the Rev. J. Jacob's note in a recent issue of THE GARDEN on Chionodoxa gigantea alba. I planted a bulb of this variety in my rock garden a few years ago, and it has increased until it forms quite a satisfactory group. When in bloom I always think it the most beautiful flower in the rock garden. When thinking of bulbs to plant for next season, it is perhaps worth noting that in this garden, a sandy loam, while quite unsuccessful in naturalising the ordinary Snowdrop (Galanthus nivalis), I have found Galanthus Ikariæ rapidly increase by self-sown seedlings. A dozen bulbs put in as an experiment in the wild garden have increased in a few years to some hundreds.—NORMAN RUSHWORTH, *Beechfield, Walton-on-Thames*.

GENTIANA SEPTEMFIDA (THE CLEFT GENTIAN).

THIS fine late-flowering Gentian has proved to be a good doer in very light, dry soil with full exposure to sun. Both it and the splendid form known as G. s. lagodeshiana have now been in bloom for at least a month and look like continuing. There are to-day many hundreds of the great azure trumpets in a small bed not a yard wide. These plants came through the terrors of last winter without the slightest ill effect.—A. T. JOHNSON.

POTATO MIDLOTHIAN EARLY.

I HAVE grown this Potato for several years and should like to support all that Mr. Goodwin says about it in your issue of August 18. On August 14 I lifted 3cwt. from 34 square yards of ground. The seed was supplied by a local firm as Scotch seed. The tubers were "chitted" in boxes under the stage in a cool greenhouse, then put in the full light to harden before planting, which was done in rows 2 feet apart and 15 inches apart in the row. The ground had been cropped with Turnips, and the sets were put in the trenches with a good layer of decayed horse-manure as the digging proceeded, measuring off 2 feet each time. I have enclosed a photograph of a sample, if you think it worth reproducing.—H. SUMMERS, *Godmanchester*.



A READER'S SAMPLE OF MIDLOTHIAN EARLY.

SEDUM BREVIFOLIUM POTTSII.

OF the lesser Sedums this is perhaps the most charming. Once you can get its clusters of blue established on the sunny face of some dry, lichened rock, you will have "a joy for ever." In early July the plant is ablaze with countless silvery white stars, but I think the cold electric blue and ruddy bronze of its foliage in winter is even more beautiful. I am afraid that S. dasyphyllum and others are sometimes palmed off upon the unwary as S. brevifolium, but, once seen, the latter will not easily be forgotten.—A. T. J.

ASARUM EUROPÆUM.

THIS plant, popularly known as Asarabacca, does not appear to be very widely dispersed. As a matter of fact, although I have visited many Scottish gardens of varying dimensions, I have only met the plant in two of these, both in Aberdeenshire. Asarabacca belongs to the Natura Order Aristolochiaceæ. Its dull brown flowers, produced in May, are insignificant; its merit lies in its shiny green, reniform leaves—two on each stem—which might easily be mistaken for Ivy. It is very suitable either for edgings alone or in conjunction with an edging of rough stones. I was recently struck with it in conjunction with an edging of quartz used to buttress a raised bed filled with scarlet Begonias. Asarabacca is readily propagated by division of its rhizomes.—CALEDONIA.

CALCEOLARIA JOHN INNES.

ONE had a pardonable doubt as to the hardiness of this hybrid Calceolaria, but as a dozen plants have survived last winter quite unprotected and have since bloomed delightfully, this valuable plant may now be classed as quite hardy. I planted mine in a line as an edging to the hardy flower border, but, although this has given the plants an opportunity of disclosing their charms without let or hindrance, it was a mistake, and later on I shall rearrange them in the form of a frontal group next to a mass of soft pink coloured Cheddar Pink. The Calceolarias have grown freely as well as bloomed profusely, so that for next year my dozen plants will make a good mass. Although primarily a border plant, it is quite suitable for the rock garden, where it should be planted at a low level—not above 3 feet—and in a cool position, though it should not be shaded.—A. C. B.

ALYSSUM SAXATILE FAILING.

I WONDER if any of your readers have to complain of the way in which the Rock Madwort (Alyssum saxatile) has suffered with them during the past winter. I have seen many big plants, which have stood for years, hopelessly injured and ruined for all future years. Where this happens, those who like the Rock Madwort should either raise seedlings, which come well even in the open, or strike cuttings of the side branches. These root quickly under a hand-light in the open ground.—S. A.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

BLANCHING CELERY

By CLARENCE PONTING.

As every gardener knows, the main difficulty when earthing up a row of Celery plants is to prevent the earth from dribbling into the heart of the plants. This can be avoided by adopting the method shown in the illustration, which consists simply of placing a paper collar round the plant.

THOSE readers who remember my article in the issue of THE GARDEN for August 11 last regarding the inter-cropping of the Celery trench sides may be interested in a few further notes as to the treatment that the rows then illustrated will receive, together with an illustration of the Celery plants undergoing the first phase towards obtaining the necessary blanch.

In my notes of August 11 the photograph showed the Celery between two rows of Peas. These have now given their crop, and the soil upon which they grew has been pricked over with a fork. This will help to dry the soil. A week later this earth will be dug deeper and smashed

CELERY IN PAPER COLLARS.

until a fine tilth is obtained. The paper was tied round the plants previous to this pricking over being done.

Earthing-up does not commence until the first week in September, and then 3 inches to 5 inches of soil will be drawn to the paper collars. This will continue at intervals of ten days to a fortnight, until 12 inches to 14 inches of the plants is covered in. This will about bury the collars and will give sufficient blanch for the earliest sticks.

These earthings should be done on a dry day, taking care to keep the top of the plant open to promote growth and allow the heart to rise. Do not hammer the soil down the sides with the spade, as I have seen some gardeners do. This acts as a severe check upon the future growth which is necessary to obtain a well-blanched heart. The last earthing-up, which takes place before winter sets in, may seem drastic to the novice, as the plant is almost, if not completely, closed up with soil to exclude the rain.

The longer that Celery is allowed to grow before earthing-up takes place, the longer it takes to blanch. From four to six weeks is necessary for fully grown plants. Red Celery also takes longer than the white variety, and then never comes pure white. It is more of a creamy pink tint.

This year there may be a difficulty in obtaining the necessary paper to form the collars round the plants. Anticipating this, I saved a number of large envelopes made from stiff cartridge paper, one of which reaches my office daily. These, cut open, form a capital collar. A single tie of raffia or Greentwist is all that is necessary to keep the paper in place, and this will rot in due course after it has been in contact with the soil, and thus allow the hearts to expand in a natural manner. The advantage of these collars is primarily the ease with which earthing-up may be performed, but they also enable one to apply liquid or artificial manure right up to the day that soil blanching commences. At the same time they hurry on the process of blanching by keeping the light excluded to a large extent, although, perhaps, brown paper might do this even better still.

Previous to commencing to blanch with soil, the plants should receive either a good soaking of water at the roots or some liquid manure. This will be the last opportunity of administering this Celery tonic.

Rust Fungi in the Garden

By NORMAN G. HADDEN.

THOUGH forming a far more serious menace to the farmer than to the gardener, still the rust fungi are quite sufficiently troublesome in garden and orchard to deserve careful study with a view to obviating their attacks. None of our numerous fungoid pests have a more amazing life-history than the rusts (Uredinales); among them the phenomenon of alternation of generations is most strikingly displayed.

Let us take, for example, a very common species (Puccinia menthæ) which attacks the Mint, and having gained a foothold soon necessitates the burning of the entire Mint bed. The mycelium of the rust seems to permeate the whole herb, which when once infected is forced to support the parasite from one year to another. The presence of the rust can be first detected in spring by the appearance of yellow spots on the under side of the Mint leaves. Examination with a pocket lens shows these spots to consist of colonies of tiny cup-shaped fungi embedded in the leaf, each cup being the cradle of innumerable spores. This is known as the æcidial or cluster-cup stage in the rust's life-history. The spores shed by the cluster-cups fall on other leaves of the Mint, where they speedily germinate in damp weather, sending out minute threads through the leaf's breathing pores and permeating the cells of the whole herb. Soon it is the turn of this generation to propagate the species, but it does so in a totally different form to that of its own parent. Instead of the quaint little yellow cluster-cups, there appear tiny brown cushions of ripe spores, scattered irregularly over the under surface of the leaves, the leaf-stalks, and even on the stems. Microscopically examined, each of these spores is seen to be round and consists of a single cell; this is called the uredo stage and the spores are uredospores, from the burnt appearance they give to the infected leaves. On germination the uredospores give rise to a third and final alternation, in which the spore clusters are very similar but of a deeper colour, and the individual spores consist of two cells; these are the teleutospores, and they in their turn give rise to the cluster-cups again in the following spring.

The life-history sketched above is fairly typical of the majority of rusts, but it differs from many in that all the stages are passed on the same host plant. Many rusts start their parasitical career on one sort of plant and continue it on a totally distinct species. The best known instance of this heteræcism is the case of the Wheat rust (Puccinia graminis), in which the cluster-cups appear on the Barberry and the later stages on Wheat and various wild grasses. Since the connection between the two plants was recognised by farmers, Barberry bushes have been rooted out of the hedgerows, and the rust is not nearly so plentiful as formerly. It has, however, been proved that this rust can omit the æcidial stage, and the infection may be carried on by the teleutospores and uredospores alone.

One species (Puccinia pruni-spinosæ) whose cluster-cups attack Anemone coronaria (and prevent their flowering) next makes its appearance in its successive stages on Plum trees; another attacks common Groundsel and the Scots Pine, and yet others alternately infect Junipers and fruit trees. A great many rusts do not go through all the spore forms as in the case of the Mint rust, sometimes the cluster-cup, sometimes the uredospore, and occasionally even the teleutospore stage being omitted from the life cycle, each spore giving rise to hyphæ which produce spores of the same type as their parent. Variation in weather and climate appear to influence the life cycle, for in some instances a rust which will produce all its stages in one country fails to do so in another.

There is a remarkable species which produces cluster-cups on the Wood Anemone, and on the Continent its later stages attack the Service Tree; in England it is apparently unable to infect the latter host, although many attempts have been made to infect it artificially. In the case of heteræcious rusts (those whose stages are borne by two distinct hosts) the extermination of one host will usually be found to materially check, if not absolutely prevent, the spread of the parasite.

Young Weymouth Pines are subject to the attacks of a very injurious rust (Cronartium ribicola), whose teleutospores are produced on Currant bushes; hence it is most important to see that nurseries of the young Pines are not in the vicinity of Currant bushes.

Spraying with Bordeaux mixture or potassium sulphide solution will keep rusts in check, but it must be realised that they are internal parasites and, unlike mildews, cannot be exterminated by external washes. Burning of any infected plants is advisable as soon as rust appears, or it will

quickly spread to surrounding plants of the same species. The practised eye will soon detect a stricken host; the stem generally looks attenuated and the leaves have an unhealthy appearance even before they are spotted by the ripe spores of the rust.

Hollyhock rust is only too familiar to gardeners, but if healthy seedlings are raised it will pay to carefully pull up and burn all wild Mallows in the neighbourhood of the garden, for these are generally infected and the means of spreading the disease.

Pansies and Violas are subject to the attacks of a rust (Puccinia œgra) which is remarkable in that the cluster-cups and succeeding stages may all be found on the same plant all through the summer. Infected plants continue to flower, but their habit becomes leggy and growth weak.

In propagating, care must be taken to avoid cuttings from infected stock; it is better to pull up and burn any plant as soon as the disease is detected. Some varieties are far more liable to infection than others, while some appear to be quite immune. It is only by careful breeding on scientific principles from immune varieties—as instanced by Professor Biffen's famous experiments with Wheat—that the presence of rusts can be removed from our gardens.

Unfortunately, the number of cultivated plants which are subject to attack by rusts is very considerable, including, besides those already mentioned, Broad Beans, Runner Beans, Peas, Onions, Beet, Asparagus, Carnations, Chrysanthemums, Campanulas, Irises (especially I. fœtidissima), Thrift, Box, Periwinkle and Virgin Lilies; while Narcissi, Aizoon Saxifrages, Sempervivums, Gentians and Violets are also occasionally attacked. Lowly parasites though they be, the rusts are highly specialised fungi, and the majority can only infest one particular species of host plant, or, as before referred to, only certain varieties of that species.

CHANTARELLE

(CANTHARELLUS CIBARIUS.)

THIS has been, and still is, a remarkably good season for this excellent esculent fungus. In many localities it is plentiful, and gives a store of wholesome and most delectable food such as should not be neglected. The illustration gives the general appearance of a Chantarelle of medium growth. When they are younger they have a quite simple form, with the edge of the cap hardly waved at all; but when older and of full size the cap is much depressed and the edge more waved and complicated; the whole outer part stands nearly upright, reminding one of an umbrella turned inside out. They are sometimes as much as 4 inches across and 4 inches high. The best way to identify the true Chantarelle is to have in mind that the colour is a deep yellow, much like that of a ripe Apricot, and that, curiously enough, they have also the scent of ripe Apricots. This is less perceptible in a single specimen, but if a few lie together in a basket the sweet scent is very distinct, and is quite unmistakable if one comes into a room where there is a basket of Chantarelles. The consistency may be described as buttery-leathery; the uneven gills run up and branch near the top edge. They may be found in or near the edges of woods, most frequently under Oaks, but also under Beeches and Hollies, and sometimes near Scotch Fir; but more usually under Firs there is a small, dry, worthless kind of a rather deeper colour that is harmless but is not worth cooking. Their praises as written by the best mycologico-gastronomic authorities can hardly be more strongly worded. In Cooke's "British Fungi" we read: Berkeley says that "the Chantarelle is occasionally served up at public dinners at the principal hotels in London on state occasions, where every effort is made to secure the rarest and most costly dainties." Batarra says that, if properly prepared, the Chantarelle would arrest the pangs of death! A good way to cook them is, after picking over and washing, to put them for a few minutes in boiling water. Then drain and dry and stew in butter with a little olive oil, with chopped tarragon, pepper, salt and grated lemon peel; simmer over a slow fire for twenty minutes and moisten from time to time with good stock or cream. Or they may be simply fried in butter with pepper and salt, but this takes an hour unless they are first softened by the few minutes in boiling water.

G. J.

The Cordon Training of Fruit Trees

THE more one sees of fruit trees generally in gardens, large or small, the more one is impressed with the advantage of the cordon principle of training. In the production of fruit, whether it be Apples, Pears, Currants or Gooseberries, the same desirable method prevails. I do not mean that all trees should be restricted to one branch or stem, but that all trees, whether they have one branch or a dozen, should be trained on the cordon principle from the base. For instance, take a Pear or Apple tree. Instead of those trees having two branches radiating away from the base, or from the centre higher up, all too thickly growing together, such trees should have a limited number

CHANTARELLE.

of main branches, thus obtaining a maximum amount of light. They should be summer pruned to induce them to form fruit spurs right from the base to the apex, and thus give a maximum amount of fruit over the whole of the tree. Such trees are much more profitable and give less trouble than the severely shaped pyramid, which, for the purpose of producing full crops of fruit, often has far too many branches and all too thickly placed, so much so that the centre of the tree bears little, if any, fruit.

A Pear or Apple tree grown on this bush-cordon system may have branches 10 feet long and will in time be quite rigid, safely carrying a full crop of fruit. Of course, there are exceptions in habit of growth. Some are less sturdy; such require support, and naturally they would not be allowed to extend so far. With Red or White Currants there is no comparison in the amount or quality of fruit that trees with a restricted number of branches will produce as compared with the ordinary thickly grown bush. Under such conditions of a maximum amount of light and air the fruit is cleaner, a better colour, and will keep so much better owing to the amount of air it receives at all times. Gooseberries, Plums and Cherries can all be treated under similar conditions with success. Lately I have seen bush Apple trees carrying quite a meagre crop of fruit under opposite conditions of training; whereas trees in the same plantation treated on more rational lines were loaded with fruit. Trees may require a little more time and attention in laying the foundation for such training, but when the base is formed the rest is simple. A system of close summer pruning is all that is required, with, perhaps in some stubborn instances, resorting to root-pruning when dealing with such a variety as Apple Gascoyne's Scarlet, which is prone to vigorous growth.

E. MOLYNEUX.

Cordon Gooseberries

THE cultivation of Gooseberries as cordons is not nearly as widely followed as the good results invariably obtained warrant, it being a noteworthy fact that where this system is followed and good cultivation observed, the fruit the trees produce is very much finer, and the results more certain, than from trees grown in the ordinary way.

As long ago as 1890 I was favourably impressed by the advantages this method had over all other forms, where first-class dessert fruit was a consideration, upwards of 800 trees being planted alongside a walk in a shady part of the garden. These were planted about a foot apart and kept in position by two strands of extra stout wire, the chief variety grown being the old favourite Whinham's Industry, and the extraordinary crops these carried every season was a revelation to all visitors.

Since then, at various times and places, I have carried out the idea on a smaller scale, choosing such as Keepsake, Dan's Mistake, Ironmonger, Antagonist, Crown Bob and Leveller, and the result has always been a success. In addition to the fine fruit these trees carry, the system of growing them makes adequate protection from birds—and others—quite an easy matter, the protecting of a long row with old fish netting being but a matter of minutes.

F. R. C.

FIG BROWN TURKEY

THIS Fig, which has no fewer than eighteen synonyms, is much the best variety for general use, especially out of doors, being perfectly hardy, of free growth and bearing abundantly. The fruit, too, is of the highest quality, large, pyriform in shape, the skin brownish red, covered with a blue bloom. The flesh is red and very luscious. A south or a west wall not less than 12 feet high, the higher the better, affords a capital site for the production of high-class fruit. With such a site the only point that remains to ensure success is management. The chief errors are too free and rich a rooting medium and an overcrowding of branches. By the former error too luxuriant growth is the result; whereas a check to exuberant growth, coupled with a free water supply during a spell of dry summer weather, means medium growth and a heavy fruit crop. A restriction, then, of the rooting space by the aid of a dry brick wall some 4 feet from the wall on which the tree is trained is the remedy.

S. H

SEPTEMBER FLOWERS AT EARLHAM HALL

THE NEW MONTBRETIAS, RARE FLOWERING SHRUBS AND ALPINES; AND A GARDEN OF BLUE FLOWERS.

WHEN Mr. and Mrs. Sydney Morris took possession of Earlham Hall, Norwich, they could not have made a happier choice; it is a fine Old English home with which anyone would soon make friends. Not that the garden was all that could be desired, but there were great possibilities. A delightful garden could be made of the old paddock where racehorses were at one time the chief feature; there were chances for planting Lilies and the finest flowering shrubs along the straight and sombre walk where the great Wilberforce was accustomed to pace up and down, and pleasant vistas could be made through the stately trees from the south front of the Hall. Now all these changes and many others have been made with such pleasing effect that it would have been a credit to the genius of Capability Brown. Those who would know more of the landscape or of the old associations of this Norfolk garden should turn to the "Recollections of the Gardens at Earlham Hall," by Mr. E. A. Bowles, which appeared in THE GARDEN for April 7 of this year. It is our purpose now to dwell upon some of the flowers of late summer as we saw them a few days ago.

The Montbretias of Earlham Hall.—First and foremost are the Montbretias. We had learnt to expect much from the wonderful flowers which Mr. Morris has on rare occasions brought to the fortnightly meetings of the Royal Horticultural Society, but we were taken completely by surprise to see a bed of about half an acre full of named and new seedling Montbretias, varying in colour from the pale clear flowers of Citronella and Lemon Queen, the rich amber of Queen of Spain and Queen Alexandra, to the orange and copper flamed Cyclops and Queen Elizabeth. Some of these, having received the high honour of the Royal Horticultural Society's award of merit, have already been described in our pages. Seen in the soft evening light, and again in the bright sunlight of early morning, the colours were so gorgeous as to baffle description. Incidentally, they baffled the camera, for the shades of crimson and gold are most difficult colours to record, and we must leave the illustrations until such happy times come round that we may again produce our coloured plates. A feature of many seedlings is the great size of the highly coloured flowers. We measured a bloom of Queen Adelaide, which is one of the finest of them all, and found it 4½ inches across, much to the joy of the gardener, Mr. G. Henley, who regards size as an essential feature of a new variety, and he does know a good Montbretia after thirty years' faithful service with his present employer. Another variety which came in for great admiration was Boadicea, with rounded petals of pure amber, a refined flower averaging 3½ inches in diameter. A few new seedlings were selected from the broad beds on the occasion of our visit and christened Halo, Macaw and Red Indian. Of these we shall hear more when they are grown up, for they are the chosen few from many worthy seedlings.

IRISH HEATH IN THE ROCK GARDEN.

Rock Garden and Herbaceous Plants.—The tall spikes of Thalictrum dipterocarpum, with a fine sprinkling of its delicate flowers, is one of the most handsome subjects in the herbaceous borders at the present time. Near by we see large clumps of our old friend Salvia virgata nemorosa, the flowers of which, as Mr. Morris pointed out, offer a great attraction to bees and bumble-bees. Beekeepers, please note! The little known Incarvillea variabilis lutea was making a brave show of its greenish yellow flowers. It seems to be a plant of good constitution, and is sure to be a favourite when better known. The charming Viola bosniaca, with bright rosy flowers, was making a delightful edging by a garden path. The beautiful rock garden, cleverly built with water-worn mountain limestone, contains many great treasures among mountain flowers. The golden yellow Oxalis lobata was just at its best; and we were fortunate in seeing a solitary flower on Mr. Farrer's recent introduction which he appropriately calls the Harebell Poppy (Meconopsis quintuplinervis). The nodding flowers are satiny, pale lavender in colour, and the beautiful outline in form is well shown in the accompanying illustration. At the back of the rock garden we observed Rosa Moyesii in quantity. Its large fruits give promise of a glorious display in the coming autumn, and the new Lonicera syringantha is still bearing its delicate pink flowers, yielding a sweet and powerful odour reminiscent of the Paper-white Narcissus. A group of the white form of St. Dabeoc's Heath (Dabœcia polifolia alba) flowers well through the summer and autumn, each flower, curiously enough, having been bitten through at its base by bees. Thus the object of the flower in secreting nectar is defeated.

A GARDEN OF BLUE AND MAUVE FLOWERS.

Among the best Roses at the time of our visit were General Macarthur, Marie van Houtte, Mrs. B. R. Cant and Lady Hillingdon. They were making good masses of colour in spite of gales and heavy rains, and the blooms may still be cut in armfuls. Juliet and Rayon d'Or produce fewer but finer flowers.

The Formal Garden.—We have left a good thing till the last. The formal garden is one of the oldest and most pleasing features of the gardens at Earlham Hall. It is a sheltered garden surrounded on three sides by high walls. The beds are filled with blue and lavender flowers and grey-leaved plants. Here we see the work of Mrs. Morris; it is a clever arrangement, for the plants are carefully chosen to produce a cool and beautiful effect. The central beds around an old stone figure of Cupid with a lyre contain tall plants of a variety of Eucalyptus Globulus known as Maidenii and the soft blue flowers of Plumbago capensis. Verbenas, including venosa

THE HAREBELL POPPY (MECONOPSIS QUINTUPLINERVIS).

and a seedling raised at Earlham, are freely used as a groundwork, and the flowers fall in careless beauty over the low Box edging on to the gravel pathways. A hardy form of Agapanthus umbellatus fits in well with the colour-scheme. It is flowering freely and is none the worse for having been outdoors all the winter. Aster Thompsonii—and there is nothing to equal it—is used with good effect along one of the borders with the Azure Sage (Perovskia atriplicifolia). The silvery grey foliage of Perovskia enters into perfect harmony with the neighbouring finely cut silvery leaves of Centaurea Clementei, interspersed with standard Heliotropes and tall plants of Plumbago capensis. H. C.

Preserving Fruit in Cold Water

WITH reference to this subject on page 343 of THE GARDEN of August 25, I have one suggestion to make while indiarubber is scarce and bottles also—and the price makes them prohibitive to persons of small means—and that is that the bottles could be sealed by using fat three days running, as each fresh sealing stops any airholes caused by the first sealing when the fat shrinks.

I enclose you a copy of some recipes I translated from my old French ones, a copy of which I have given to the Royal Horticultural Society, the Agricultural Society in Tothill Street, Westminster, and various others to use as they think fit.

The Preservation of Soft Fruit.—With reference to the preservation of soft fruit, the plan of stewing down the fruit and storing for jam-making later is a good one, and succeeds well if the jars are first warmed, then a few drops of alcohol put into each jar before being filled with the hot fruit pulp. The jars should be filled up to the neck, but not far into the neck, as it is necessary to leave room for about 2 inches of fat. Bottles may be sealed successfully with fat, provided it is not a very hard-setting, brittle fat, as this tends to come away from the sides of the bottle or jar. A mixture of mutton and beef fat is suitable for the purpose. The fat should be melted and poured slowly into the neck of the jar to the depth of about 1 inch, and the jar must be warmed beforehand. The fat is then allowed to cool in a place where the temperature is not liable to sudden change. After the first quantity of fat has set—say, on the next day—a further quantity—say, half an inch—of melted fat should be run on to the top of the cold fat first added, and if the depth of the neck is sufficient, a third quantity should be added at a later date.

Preserving Fruit and Vegetables by Drying and Evaporation.—These recipes are meant mainly for those who have only small ovens and ordinary appliances, and must use their own materials in the way which is possible for them. Ovens in which bread or cakes are baked can be easily used if the recommendations are followed. Paper bags, if clean, can be used instead of cotton or muslin, to save expense and labour. Of course, people with large gardens and adequate means would be well advised to purchase the modern apparatus for evaporating fruit and vegetables, but such apparatus is not necessary for those of small means with equal intelligence who are in a position to develop "la petite culture" so thoroughly known and practised in other countries.

Fruits Dried for Preservation.—Plums, Apricots, Cherries, Damsons and Peaches can be dried and kept for use in the following manner: Any clever housekeeper will see that this is done properly at the right time and avoid all waste. Gather the fruits when ripe, but not over-ripe. Place them on gratings in a cool oven until they are shrivelled up like the fruits sold as evaporated fruits. Put them in bags (paper for preference) and keep them in a very dry place. When to be used, soak them in plenty of water so that they have room to swell, and stew them slowly (very slowly) with the same water in which they have been soaked. If shrivelled up when stewed instead of being swollen to the usual size, it is because they have been done too quickly in a hot oven or with not enough water to swell in.

Peas to Preserve Dry.—Peas must be gathered young. After shelling them put them into a pot of slightly salted water. Bring them up to boiling point, then drain them at once and spread them on a cloth to remove all moisture. Put them on a baking sheet in a cool oven to get *hard*. When hard, spread them out and place them in clean paper bags; hang them up in the kitchen till required for use. These dried Peas can be boiled in the usual way in boiling salted water with a sprig of Mint, or an Onion, or a lump of sugar, as preferred. Some put a pinch of carbonate of soda to keep the colour.

Broad Beans to Preserve Dry.—These are gathered young and are treated exactly like the Peas. They are excellent either cooked whole or as a purée, but must, of course, be soaked for some time before being cooked. The water should be saved for a vegetable soup. (*Note.*—If the Broad Beans are gathered fairly old, a hard skin will have been formed, and must, of course, be removed before the Beans are put in the oven to dry.)

French Beans.—If gathered young, these can be dried and kept like the Green Peas, but they may require soaking for a couple of hours before use.

Mixed Vegetables (Julienne Seche).—This consists of Carrots, Turnips, Parsnips, Jerusalem Artichokes, &c., shredded up and dried like the Peas and placed in paper bags for use. In the South of Europe the drying is done in the sun. In the North the cool oven is the only safe method, and dried fruit and vegetables must be kept in a dry and airy place. MARY BEALE.

Pear Charles Ernest

LIKE the variety Durondeau, this Pear makes a splendid cordon. With me this year it is one of the best. I have rarely seen fruits with more than a faint flush of crimson on the sunny side, but my fruits are a deep crimson covering half the fruit already. Perhaps it is mainly owing to the great quantity of iron in the soil—I have one ironstone that was recently dug up weighing 1cwt.—as all fruits and flowers in my garden have the special feature of rich colour, except Muscat of Alexandria Grapes, but in their case I am overcoming the difficulty by the judicious use of lime.

Pear Charles Ernest is a regular cropper and bears large fruits; the leaves are smooth and quite distinct. Amateur cultivators who contemplate planting Pears this autumn should include the variety named. It makes a grand pyramid and espalier. I have noticed in late years in villa gardens the revival of espaliers of both Pears and Apples. G. G.

ASTER THOMPSONII AND THE AZURE SAGE (PEROVSKIA ATRIPLICIFOLIA).

HERBACEOUS PÆONIES

SEPTEMBER AND OCTOBER ARE THE BEST MONTHS TO TRANSPLANT THESE BEAUTIFUL HARDY FLOWERS.

NOBLEST and best of herbaceous plants that flower in summer-time, gardens are numerous in which Pæonies may be planted on a lavish scale, and few, comparatively, by reason of size or peculiar situation, from which they need be excluded altogether. Hence in large measure they may be accounted indispensable—good enough, indeed, for all whose gardening is chiefly, or entirely, confined to the open air. Hardiest of the hardy so far as the plant's roots are concerned, and suffering but rarely as the result of late spring frosts, the gardener is wont to regard them as the most reliable of his subjects, a never-failing source of flower beauty in June and July, once they have become well established. And not at flower-time only. With each recurring spring there is presented the rich effect of crimson stems and leaves, as brilliant as the Scarlet Dogwood under a winter's sun, and just as good in the picture. Later they impress by fine leaf development and stately habit; anon, at flower-time, by chaste or brilliant colouring or the unequalled fragrance of not a few.

FLOWERING ROSETTES OF SEDUM PILOSUM.

Adaptability and Position.—For the reasons already given, the young Pæony growth in spring associates well with the stronger-growing Narcissi, and, while affording pleasing harmony or striking contrast when thus grown, also enhances the beauty or interest of some particular spot for a longer time than usual. Adjacent to groups of white-flowered shrubs, the more brilliant would be in striking contrast. Conversely, white or light-coloured sorts would have a telling effect in the vicinity of dark-leaved shrubs, each in turn mirroring the other into fuller life and beauty. In this way many a shrub border may be illumined; and if sparkling with Snowdrop, Squill, Anemone, Cyclamen and the like at other seasons, so much the better. Incidentally, a belt of shrubs sheltering the plants from north and east would secure them from the effects of late spring frosts, though such occurrences are rare. In districts where the ill-effects of such frosts are more frequently felt, planting in a western exposure would meet the case. The greater danger from frost arises when the flower-buds of the Pæony are about the size of Peas—the nascent or petal-forming period. In the main, however, the plants are safe in any open position, and only rarely indeed does a complete collection suffer. Curiously, the old-fashioned double crimson Pæony, which flowers early, suffers least, the later-flowering sorts, descendants of P. albiflora, P. edulis and P. sinensis, being those occasionally nipped in the bud.

Soil and Cultivation.—It is important here to recognise that the Pæony is a deep-rooting subject, sending down its thong-like roots to a depth of 3 feet or more into well-cultivated soils; hence to attain perfection the soil should be deeply trenched. Many soils will not, it is true, allow of trenching 3 feet deep, though the most should be done in every case. Remembering, too, that when once well planted they may be left for a decade without showing any declining vigour, they merit being well done. Gross-feeding subjects, too, the ground should be heavily manured. In these two directions no one is likely to err on the side of generosity. As to soil, the Pæony is not fastidious, and while disliking the coldest and heaviest clay soils, may be well cultivated in the majority outside these. In loams of medium texture they establish themselves more quickly; in heavier soils they longer endure. For very light, sandy soils, cow-manure alone should be employed, for its cooling nature rather than for its high manurial value. For the rest, good stable manure will suffice. In addition, established beds or groups are greatly benefited by copious applications of liquid manure in autumn and winter, when root activity is considerable.

When to Plant.—The best period of the whole year is September and October. Some commercial growers go one better and prefer August, so as to be in advance of new root formation—an important factor in connection. Generally, this new root activity begins in late September, and October is often in before it has developed to any considerable extent; hence my choice of the period named. The weeks immediately succeeding, and while the plants' crowns remain dormant, may be regarded a good second best. The worst period for planting is the early spring months when growth has already begun, and the fact cannot too strongly be emphasised. Planting at that time has caused much disappointment in the past; its weakening effects upon the plants directly responsible for their slow recovery. In this connection the correct test of all such work is the quick return of the subject to a good representative flowering. Conversely, incorrect work may be readily gauged by slow recovery and by the debilitated condition of the plants.

The Best Type of Plant to start with is a youthful one of three to five stout crowns. The planting of big clumps intact is a mistake; indeed, nothing is more fatal to success. By periodical division of the subject the Pæony specialist is enabled to supply examples that generally give satisfaction. Rooting afresh from the base of the crown buds, it is important that the crowns be buried about 2 inches deep. In group planting, the individuals should be rather thinly disposed—a yard apart each way or even more would not be too much—since leaf development is considerable and progressive with years. In this way a couple of dozen plants of a variety would form a goodly colony. On a smaller scale in the border, groups of three or five answer well, and, of course, there are many instances where solitary examples only could be accommodated.

Varieties are numerous, but the following are in every way excellent: Canarie, white and sulphur; Duchesse de Nemours, creamy white, highly fragrant; Felix Crousse, brilliant crimson; Festiva Maxima, snow white, of enormous size; Her Grace, peach pink; Lady Bramwell, silvery rose, very beautiful; Marie Lemoine, handsome creamy white, very fragrant, late; Mme. Furtado, carmine, salmon rose centre; Mme. de Vatoop, white and flesh; M. Charles Lévêque, silvery blush; Philomele, satin rose, sulphur centre, Anemone formed, a great bloomer; Solfaterre, white, lemon centre, the best of its class; Progress, the largest creamy white, double, very free.

E. H. JENKINS.

SEDUM PILOSUM

THE family of Sedums, or Stonecrops, is composed of plants of different habit. Some creep along the ground, forming a dense carpet of small leaves; some make trailing growth, with pointed or flattened leaves; others possess a more upright habit, crowned with heads of bloom; while others form rosettes resembling the Houseleek. Sedum pilosum, the subject of this note, belongs to the last section, with foliage arranged in rosettes like the Sempervivums, covered with a fine down, and is one of the most beautiful of the whole genus with its heads of pretty pink flowers during June and July. It is a native of the Caucasus, and, like the majority of the genus, prefers a dry, light soil and a sunny position. In some wet districts it may suffer in winter from excessive wet, but a sheet of glass placed over it will overcome this difficulty. It is readily raised from seed, and should be raised annually, as it is of a biennial nature.

F. G. PRESTON.

The Père d'Ardène

NO one who has interested himself in French floriculture can have failed to come across the name of this famous old French floricultural writer. When he was born and when he died I do not remember, even supposing I ever knew. But he lived and flourished in the early part of the eighteenth century, and is reputed by competent authorities to have been one of the most practical and scholarly exponents of the art of cultivating florists' flowers.

I object to Loudon's statement in his "Encyclopædia of Gardening" (new edition, page 113), where, speaking of French authors on gardening, he says: "Their works on florists' flowers, such as D'Ardène, Traité des tulipes, &c., are chiefly translations from the Dutch." Taking Morin, Goube, "L. B.," "L. C. B. M.," Liger, Valnay, Fuard du Castel, Guérineau de \St.-Péravi, La Chesnée-Monstereul, and Guénin, some of the best-known writers of the period on florists' flowers, to say nothing of the anonymous ones, there is no suggestion anywhere outside Loudon's, so far as I can find, that the works of these men were other than original. And certainly the Père d'Ardène fully deserves our confidence in this respect. In his day, when brazen-faced plagiarism was rife, he takes special care to denounce it in more than one of his chubby little 12mo volumes.

If the reader turns to his "Pritzel" he will find that Jean Paul Rome d'Ardène is there credited with four works—one on the Ranunculus, and others on the Hyacinth, the Carnation and the Tulip. These, however, were not all, for my old friend M. G. Gibault says that the Père d'Ardène wrote a monograph on the Auricula (a work I have never been able to trace in any bibliography or library catalogue) and a treatise on vegetable culture called "L'année champêtre" (three volumes, 12mo, 1769).

The popularity of the Père d'Ardène's works is beyond question. His first work, "Traité des Renoncules," published in 1746, ran into at least three editions. Fancy a book on the Ranunculus, of nearly 300 pages, running into a third edition here in England to-day! The thing is impossible. His "Traité des Tulipes" reached a second edition, and two of his books were translated into German and Italian respectively.

I have long cherished the desire to know something more about the Père d'Ardène than his little books afford us. Probably the "Biographie Universelle" of Michaud would satisfy us, but that is not accessible. In English horticultural literature references to this old French florist are rare, but in addition to Loudon's bare mention there is one in Felton's "On the Portraits of English Authors on Gardening." He says in his preface: "Jean Paul de Ardenne, Superior of the Congregation of the Oratory of Marseilles, one of the most famous florists of the period in which he lived, and who devoted great part of his time in deeds of charity."

It would be most interesting and instructive to learn where Felton gathered these few details from, because we can glean very little from D'Ardène's books themselves. His name does not appear on the title-page of any of them; but at the end of the preface to his book on the Ranunculus and also to that on the Carnation he subscribes himself "Votre très-humble & très-obéissant serviteur D'Ardène, P. de l'Orat.," *i.e.*, prêtre de l'oratoire.

It was long a puzzle to me as to what a priest of the Oratory could be. Church of England friends and Roman Catholic friends alike could give no explanation. Was he a priest of a church called the Oratory or of a religious Order? The latter seemed to be the most probable, for on the title-page of some of his books appear the words "avec permission des Supérieurs." As a final result of my enquiries I chanced to turn to Haydn's "Dictionary of Dates," where we get the satisfaction of learning that the Oratorians are a regular Order of priests established by St. Philip Néri about 1564, and that they had a foundation in France. Hence the Père d'Ardène's position becomes clear. C. HARMAN PAYNE.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Carrots.—The main crop growing in stiff soil will be all the better lifted and stored in sand in a shed or at the foot of a north wall in the open where they can be protected from frost. Carrots grown in stiff soil are liable to split during wet weather in the autumn, and especially when the roots start a second growth by putting out new roots around the main root. Make a last sowing of a Stump Horn variety on a warm border, from which useful small roots may be obtained during the early part of the year.

Tomatoes.—From the plants growing in the open the fruits, directly they are the least bit coloured, should be gathered and placed in a warm room, where they will ripen quite well. Plants in bearing under glass should have all the side shoots removed and the leaves shortened back. Top-dress the plants carrying heavy crops with turfy loam and half-decayed horse-manure in equal parts, adding a sprinkling of bone-meal or some approved fertiliser. Failing the top-dressing, dissolve half-an ounce of sulphate of ammonia in a gallon of water occasionally. Sow seed in heat to obtain plants to fruit early in spring. Keep them close to the glass to induce a stocky growth.

Celery.—Earth-up the late batches with soil as growth progresses, being careful to tie the leaves together first to prevent the soil getting into the heart of the plant, which causes crooked growth. The latest batch should have all lateral growth and the lower small leaves removed, and soil put around the stems, first sprinkling soot about the plants to ward off an attack of slugs, which in some seasons disfigure the outer leaves considerably.

Peas.—The latest batch of Peas promises well for a full crop if we get bright weather during this month. Where tits are troublesome, the Peas should be protected by nets. During dry weather the rows should be heavily watered to ward off mildew.

Onions.—As the outside-sown bulbs show signs of ripening, bend down the tops to reduce the "necks" and aid the maturation of late-grown plants. Where the bulbs are ripe, they should be taken up and laid on the surface for a few days to dry.

Turnips.—Make the last sowing of winter varieties, which may produce useful small roots for spring use.

The Hardy Fruit Garden.

Apples should be gathered as soon as they become ripe. The best test of their fitness is the ease with which they leave the tree when lifted upwards. If a sharp tug is required to release the Apples, allow them to remain longer on the trees. Apples cannot keep well if they are not ripe when gathered. Store the good fruits by themselves for future use. If none of the Apples are damaged in the skin, they may be placed thickly together in layers.

Strawberries.—Finally clear away runners and old leaves, and with short manure enrich the ground by digging it in lightly, leaving the surface neat for the winter. Fill without delay any gaps on new plantations, as so much depends upon how the roots take hold of the soil before the winter.

Plants Under Glass.

Cinerarias and Primulas growing in cold frames at the back of a north wall should now be removed into a more sunny site. The latter will soon be better on a shelf close to the glass in a cool house, where they will be induced to grow stocky. If the pots in which they are to flower are full of roots, give them weak liquid manure occasionally.

Ferns in the greenhouse that are pale in their fronds owing to exhaustion of the soil should be given sulphate of ammonia at the rate of 2oz per gallon every time they are watered.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—A few rows may yet be sown, the material from which sometimes comes in useful in April. The main winter batch is now ready to be thinned, and if a large-leaved variety is grown, 10 inches to 12 inches is none too much space for each plant. A thick dressing of soot helps the plants, and after applying it the spaces between the rows should be deeply stirred with a draw or swan-necked hoe. This crop should not be picked till the July-sown batch finishes about the beginning of winter.

Cabbages.—These are now ready to transplant, and if sown in very firm soil they will lift with a mass of fibrous roots to each. None of the present-day early Cabbages need be planted wider than 18 inches by 12 inches. It is very important that the plants are thoroughly firmed, and where women do the work this is not always so perfect as it ought to be.

Cauliflowers.—Many gardeners still sow at this time an early variety—usually Early London—to stand the winter for transplanting in spring. Where the old-fashioned hand-lights are still in use, quite an early cutting may be had by utilising these, planting five in each light when ready to transplant, and removing the surplus plants in spring for a succession.

The Hardy Fruit Garden.

Apples.—The earlier varieties should now be examined, and those mature enough for storing be picked and placed in the fruit-room. The haphazard custom of clearing trees at one picking is bad and wasteful, because those not quite fit, if left for another fortnight or three weeks, will swell to double the size and keep much better. Late varieties should not be stored for another month or more; the very latest not till November.

Tender Fruits.—Apricots, owing to the damp in the now cold nights, are liable to rot in the ripest part of the fruit, and in order to obviate this it is worth while to pick all fruits just before they reach the stage indicated. They ripen well enough in a cool, airy room, but do not keep so long or so well as Plums and Peaches, which may be stored for future use in a similar manner.

Plants Under Glass.

Chrysanthemums.—Bush plants may require a stimulating manure to help them to regain any vigour lost during the period when the buds were setting. Apply water in future in the mornings, so that the plants may be slightly dry at night. The shoots at any favourable moment may be finally arranged and made secure.

Carnations.—These are usually transferred to winter quarters about this date, when the earlier flowers are opening and therefore liable to damping. More water at the roots will be required for a time, and ventilation of the very freest afforded. See that plenty of room is given each plant, so that light and fresh air may play around every leaf. Usually no manure will be needed for some time.

Zonal Pelargoniums.—These also should be moved to their flowering quarters, and a portion allowed to throw bloom for early winter flowering, the remainder having the buds removed meanwhile. Give these also abundance of fresh air and as much light as possible. Slight applications of superphosphates have a marked effect on the colour of the flowers, which is rendered clearer and deeper thereby.

Arum Lilies.—I summer these in the kitchen garden, planted in one of the quarters. They may be lifted now if previously prepared by having the roots cut with a sharp spade. If this has been neglected, then leave them ten days after cutting to allow new roots to push. A suitable compost consists of three parts of loam to one part of rotted manure, the material to be rammed very firm when potting. I invariably leave the plants outdoors till well into October before housing.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

NEW & RARE PLANTS

FIRST-CLASS CERTIFICATE.

Brasso-Cattleya Lady Veitch.—This is one of the most handsome bi-generic hybrids seen for a long time, and imposing flower well balanced in all its parts. The sepals are narrow and long, the petals broadly ovate, the handsome, well-proportioned lip pleasingly frilled, with rich golden base. This finely finished variety throughout is white, with a pretty suffusion of rose pink. From Messrs. Flory and Black, Slough.

AWARDS OF MERIT.

Cattleya × Mrs. Pitt, Charlesworth's Variety. The whole flower is of rich ruby red, with deeper-coloured lip veined with gold at the base. From Messrs. Charlesworth and Co., Hayward's Heath.

Lælio-Cattleya Canhamiana Golden Fleece.—A well-set-up flower having golden sepals and petals, the heavily fringed lip purple and gold. It is a hybrid of L.-C. Canhamiana crossed with L.-C. luminosa. It found many admirers. From Messrs. Armstrong and Brown, Tunbridge Wells.

Cattleya × Naida var. Exquisite.—In this the sepals and petals are rich apricot, the crimson maroon lip having a wire edge of white, and coloured golden at the tube. A striking novelty from Messrs. Hassall and Co., Southgate.

Plum Laxton's Utility (Jefferson × Peach).—A handsome dark-skinned variety of luscious flavour. The flesh is greenish. From Messrs. Laxton Brothers, Bedford.

Eustoma Ellisii.—A variety of E. Russelliana with pink-coloured flowers, these being characterised by a crimson-coloured base. The foliage is ovate and glaucous, after the type, to which it should prove a delightful companion. A greenhouse plant 18 inches high, best regarded as a biennial. From Mr. C. J. Ellis, Weston Nurseries, Weston-super-Mare.

Dahlia Mrs. J. A. Jarrett (Pæony-flowered).—A giant flower of rich scarlet shade. From Mr. J. A. Jarrett, Anerley.

Dahlia Harry Crabtree (Cactus). A finely incurved flower of rose magenta with creamy centre.

Dahlia Golden Rain (Cactus).—A soft yellow self.

Dahlia Mrs. Herbert Blackman (Cactus).—The variety is of good incurved form and coloured pink with white base.

Dahlia Medallion (Collerette).—The guard petals are yellow, the inner florets white and yellow. These were from Messrs. J. Stredwick and Son, St. Leonards-on-Sea.

Dahlia Bianca (Decorative).—A pure white of capital form. From Mr. Charles Turner, Slough.

Dahlia Eastern Star.—The colour is rose magenta.

Dahlia Primrose Star.—A pale yellow self. These are good additions to the "Star" set, and were shown by Messrs. J. Cheal and Sons, Crawley.

The foregoing Dahlia novelties, which were adjudicated upon by a joint committee of the Royal Horticultural Society and National Dahlia Society on the 28th ult., carry the award of merit of the former and the first-class certificate of the latter.

Royal Horticultural Society

THERE were fewer exhibits than usual at the fortnightly meeting on August 28, though there was much of interest. On this occasion the gold medal collection of bottled fruits from Mr. Vincent Banks was a great attraction, nothing finer of its kind having ever been staged. Fresh fruits (Apples) from Hounslow were particularly good, Messrs. Laxton also contributing some novelties of their own raising. The greater floral displays were of Roses, a big bank from Mr. Elisha Hicks constituting a chief attraction. Orchids and Dahlias also contributed their quote, while hardy flowers were but little shown. Several good novelties were on view (see "New and Rare Plants").

THE NEW EUSTOMA RUSSELLIANA ELLISII. FLOWERS PINK.

FRUIT AND VEGETABLES.

For a collection of bottled fruits and vegetables, Mr. Vincent Banks, Chief Instructor to the Food Production Committee, Board of Agriculture, was deservedly awarded a gold medal. The exhibit comprised 300 specimens and about 180 varieties. Some were of the current season's growth, others of several years old, all being apparently in perfect condition—skinned Peaches (1913), Asparagus (1914), young Potatoes (1911), yellow Peach and yellow Plum (1915), Mushrooms (1913), Broad Beans (1916) and Greengages (1916). This shows that the lesson is clear as to the value of bottling in a year of plenty, as is the case with Plums at the present time. Oven-dried examples of Cherries, Currants, Tomatoes, Carrots, Beans, Apples, Peas, Plums and others were on view, thus rendering the exhibit one of the most comprehensive and instructive we have seen.

Messrs. S. Spooner and Sons, Hounslow, contributed forty dishes of excellent Apples, both early dessert and culinary sorts. Of the former, Ruddy, Langley Pippin, Worcester Pearmain, Red Quarrenden and Lady Sudeley were all highly coloured; while of culinary sorts Stirling Castle, Lord Suffield, The Queen, Red Victoria (a brilliant-looking lot), Pott's Seedling (very fine), Norfolk Beauty and Frogmore Prolific were among the better samples. Shown in well-filled baskets a good result was secured. Silver Knightian medal.

Sir Albert Rollit showed Figs grown in the open air at St. Anne's Hill, Chertsey. They were very fine.

Mr. F. Herbert Chapman, Rye, contributed heaps of mature fruits of his new hybrid Vegetable Marrow Rotherside Orange, which that eminent vegetable expert, Mr. E. Beckett, has described as "the most prolific and best-flavoured variety yet raised."

Messrs. Laxton Brothers, Bedford, showed their new Apple Duchess of Bedford (Cellini Pippin × Beauty of Bath), of very promising appearance, and Plum Laxton's Gage (Green Gage × Victoria), which has a decided Gage flavour, though not quite ripe.

ROSES.

Of these, Mr. Elisha Hicks, Twyford, formed a huge bank of three dozen stands, the whole making a welcome as well as imposing display. Victor Hugo (the most fragrant of Roses and of intense colour richness), Mrs. George Norwood (pink), Mrs. Elisha Hicks (blush), Mrs. Dunlop Best (apricot) and Climbing Hillingdon, all of the highest merit and richly fragrant, were among great things; while such as Constance (golden, an improved Rayon d'Or), Grange Colomb, Duchess of Wellington, Louise C. Breslau (apricot), Ophelia (flesh pink) and Charles E. Shea (a gold medal Rose) were others that could not be ignored. We did not look for such a wealth of Roses after the incessant recent rains. A silver Flora medal was deservedly awarded.

Roses, too, in some variety came from the Rev. J. H. Pemberton, Romford, and here we noted Thisbe, Moonlight, Queen Alexandra, Daybreak, the pure white Pax, Pauline and others. These are of the cluster class and in the main perpetual-flowering sorts, which is a great gain.

GREENHOUSE PLANTS.

An excellent exhibit of the now rarely seen Eustoma (Lisianthus) Russellianus, from Mr. C. J. Ellis, Weston-super-Mare, was a considerable attraction; and not less so the new pink-flowered variety which has been named Ellisii (see "New and Rare Plants"). The type has large violet purple flowers of erect, bell-shaped outline. The neat-habited examples were 1½ feet high. It is best grown as a greenhouse biennial on the lines of Exacum and others.

The Fern group from Messrs. H. B. May and Sons, Edmonton, contained the elegantly plumose Polypodium Knightæ, Davallia nobilis, D. fijiensis robustus, Polypodium Mayi, P. glaucum crispum and a series of plumose Nephrolepises, which included Whitmanii, W. compacta, Marshalli compacta, and gracillimum. Veronicas of the V. speciosa set were well shown, Gabrielle (rose pink), Valeria (dark blue), Pearl (carmine) and Mont Blanc being some of them.

HARDY PLANTS.

Mr. Charles Turner, Slough, showed some handsome seedling Kniphofias, one, of well-defined scarlet and gold colour, being most attractive. Clerodendron Bungei, brilliant red trusses, was also excellent. In addition a series of Hibiscuses included Blue cœlestis, Rubis (single), Lady Stanley (pink) and puniceus plenus, all valuable at this time.

Mr. G. Reuthe, Keston, showed the pretty pink Poterium obtusum, Astilbe simplicifolia, Gentiana Pneumonanthe alba (very rare), Parnassia caroliniana, Gaultheria Veitchii (a new Chinese species having blue-coloured fruits), Erica Mackayana plena (rosy), E. Lawsonii (virtually a single-flowered form of the preceding), the new rose, pink, crimson, white and red forms of Erica cinerea, Berberis Sargentii, and the pink-flowered Daphne Verlotti, which is very beautiful.

Mr. H. Close, Orpington, exhibited Asters and other hardy flowers in variety.

DAHLIAS.

Messrs. J. Cheal and Sons, Crawley, showed varieties of several sections of the flower, Star, Cactus, Collerette, decorative and others. Sweet Briar (pink), Prima Donna (white), F. W. Fellows (orange) and Imp (intense dark maroon) are all of the Cactus set; South Pole, Sparkler and Shiel (pink) are decorative sorts. The more attractive, perhaps, not only here but in the garden, are those of the Star set, and these in many shades of colour and of medium size may be accounted the most useful generally.

ORCHIDS.

Messrs. Armstrong and Brown, Tunbridge Wells, showed a handsome lot of Lælio-Cattleya L. C. Woodhams, also Cattleya Saturn alba, C. Iris in variety, Masdevallia Chimera Roezlii, with Odontiodas and Odontoglossums.

From Mr. J. E. Shill, The Dell Gardens, Egham, came Cattleya Capella and C. Astron, both pure white; also Lælio-Cattleya Golden Queen, the sepals salmon apricot, the lip purplish crimson.

Messrs. Charlesworth and Co., Hayward's Heath, had well-flowered examples of Cattleya aurea, C. Gaskelliana

alba, C. Miquelito (white and crimson), Lælio-Cattleya Britannia Regina, L.-C. Appam and others. The firm also showed some good Odontoglossums.

Messrs. Sander and Son, St. Albans, contributed Lælio-Cattleya Iremsis var. Perfecta, L.-C. Longueval (a very dark coloured form), Cattleya Thurgoodiana and Eria floribunda, among others.

Windfall Apples and Marrow Pickle

SPICED CONSERVE OF UNRIPE WINDFALL APPLES.

AFTER the great storm at the end of August I was confronted with the domestic problem of some bushels of unripe windfall Apples and a scarcity of sugar. In ordinary times I should have made them into Apple jelly, but as this was impossible, we picked out the best for a small quantity of jelly, and then Mr. and Mrs. "Busy Bee" and I held a small and serious committee meeting to consider what to do with the rest, and between us we arrived at the following, which tastes good and we hope will keep well. (I am sending a small sample to our Editor.) [It is an excellent conserve.—ED.]

Ingredients.—Six pounds of pared and cored Apples; one to one and a half pounds sliced Sugar Beet, and one pint of liquor from same; half a pound Shallots, chopped; half a pound sweet ripe Plums and their kernels; a quarter of a pound dates, chopped (weighed before stoning); one tablespoonful salt; one dessertspoonful curry powder; one teaspoonful turmeric; one ounce ground ginger; one pound sugar (we reckon the Sugar Beet equal to sugar); and one pint vinegar.

Method.—Let the sliced Sugar Beet simmer slowly till tender with just enough water to cover it. This takes several hours. Next, boil all the flavouring ingredients together with the pint of liquor from the Sugar Beet and the vinegar for twenty minutes; then add the remainder of the Sugar Beet and the pared and cored Apples, and simmer all together for about one and a half hours. Put into bottles or jars and tie down as jam.

This will, at any rate, keep the Apples from immediate waste, and we hope it will keep as well as most home-made chutneys. If made with *ripe* Apples it would require less time for cooking all together.

N.B.—Our milch goat greatly appreciated the Sugar Beet leaves, and the remainder of the Apples are heaped up to make cyder later.

PUNGENT PICKLE OF VEGETABLE MARROW.

(Recipe sent me by a former Mayoress of Kingston-upon-Thames.)

Ingredients.—Six pounds full-grown and nearly ripe Vegetable Marrow cut into one inch square cubes; two quarts vinegar—need not be the *best white* vinegar; one pound loaf sugar; one ounce ground ginger; one ounce turmeric; twelve Chillies; half a pound Shallots, cut up small; and one saltspoonful cayenne pepper.

Method.—Cut the Marrow into one inch square pieces, spread on a large dish (a well-dish if possible) and let it stand for twelve hours to drain. Boil all the other ingredients together for twenty minutes, then put in the Marrow and simmer till tender. Tie down and store in jars.

Cost.—The cost of the above this year, *including kitchen fuel* (a point always omitted by gardener and cook, but which the housewife has to consider), was 3s. 6d. It made a good seven pounds of pickle before being put into the jars, and I allowed 1s. for value of Marrows. ANNE AMATEUR.

Papaver alpinum

THOSE who are purchasing a few flower seeds for their rock gardens, and who wish for plants of perennial duration, should bear the Alpine Poppy, Papaver alpinum, in mind. It grows at the most a foot high, but is frequently little more than 6 inches or 9 inches. The leaves are beautifully divided and of a charming glaucous tint. The flowers are now considerably varied—almost as much so, in fact, as the Excelsior strain of Papaver nudicaule—and can be obtained in mixed packets, producing flowers ranging from pale yellow to orange, and in the opposite direction to white. Some have, indeed, a shade of pink in them. The typical P. alpinum is yellow. It is a much more refined plant than P. nudicaule; and the Pyrenean variety, often classed as a separate species under the title of P. pyrenaicum, is dwarfer and of the most delicate grace. I find these Poppies best sown very thinly where they are to bloom and thinned out to at least 6 inches apart, but they can be sown in pans or pots if transplanted when small and in showery weather.

P. alpinum and its varieties are excellent in groups in the rock garden or moraine; and on the top of a wall, where there is some soil below, they look exquisite when the sun is shining through their almost translucent, charmingly coloured petals. The fringed varieties, offered separately, come wonderfully true.

Dumfries. S. ARNOTT.

SEED SOWING IN THE GREENHOUSE

GIVEN a light, airy greenhouse with a heating apparatus to keep out frost, it may be utilised for the raising of a great number of seedlings, both of flowers and vegetables. Though many of them may be raised outdoors, plants from seed sown in the greenhouse will flower, or, in the case of vegetables, be ready for use, much earlier, thus prolonging the season over which they are available. As bearing on this subject the following tables should be very useful.

FLOWERS TO BE AFTERWARDS PLANTED IN THE OUTDOOR GARDEN.

Variety.	*When to Sow.*	*After Treatment.*	*When to Put Out.*	*Height of Plants.*	*Date of Blooming.*	*Colour of Bloom.*
Aster	March	Prick off into shallow boxes when large enough	Early in May in dull showery weather	1ft. to 3ft.	Summer and early autumn	Various
Antirrhinum	February	As above or pot singly into small pots	Early in May	1ft. to 3ft.	Summer and early autumn	Various
Begonia, Tuberous	February	Prick off as soon as large enough	End of May or early in June	1ft. to 18in.	Late summer and autumn	Various
Carnation	March	Prick out when large enough	May	2ft. to 3ft.	Summer and early autumn	Various
Hollyhock	February	Pot singly	April	4ft. & more	Summer	Various
Nemesia	Early in March	Prick off into shallow boxes	May	1ft. to 18in.	Summer	Various, but orange shades predominate
Nicotiana	March	Pot singly when large enough	End of May or early June	2ft. to 4ft.	Summer and early autumn	White, carmine & purple
Petunia	February	First prick off into shallow boxes, then pot singly	End of May or early June	1ft. to 2ft.	Summer and early autumn	Various
Pansy	End of Feb. or early in Mar.	Prick off when large enough to handle	Latter part of April or in May	1ft.	Early summer	Many shades
Pentstemon	February	Pot off when large enough	End of April	2ft. to 4ft.	Summer	Various
Sweet Scabious	Early in March	Prick off into shallow boxes	Early in May	1ft. to 3ft.	Summer and early autumn	Various, some flowers very dark
Sweet Pea	End of Feb. & Mar. in small pots	See that they do not get too dry	April	6ft. or more	Summer	Various
Stock	Early in March	Prick off thinly into shallow boxes	Latter part of April if mild	1ft. to 2ft.	Summer	Various
Zinnia	March	Pot singly when large enough	End of May	1ft. to 2½ft.	All the summer	Various

FLOWERS TO BE GROWN ALTOGETHER IN POTS IN THE GREENHOUSE.

Variety.	*When to Sow.*	*After Treatment.*	*Size of Pots to Flower in.*	*Height of Plants.*	*Date of Blooming.*	*Colour of Bloom.*
Balsam	March	Pot in light, rich soil	6in. to 7in.	18in. to 3ft.	Summer	White to scarlet
Begonia, Tuberous	February	Prick off as soon as large enough	5in. to 6in.	1ft. to 18in.	Late summer and autumn	Various
Calceolaria, Herbaceous	July	Prick off into pans, then pot into 3in. pots	5in. or 6in.	1ft. to 18in.	May and June	Mostly shades of yellow and red
Carnation	March	Pot singly when large enough	5in. to 6in.	2ft. to 3ft.	Summer and autumn	Various
Celosia	March and April	Pot in light, rich soil	5in.	1ft. to 2ft.	Summer	Bright shades of red and yellow
Cineraria	March to May	Pot directly into small pots	5in. to 7in.	1ft. to 3ft.	Winter and spring	Various
Clarkia	September	Pot into 3in. pots for winter	5in. to 7in.	2ft. to 4ft.	Spring	Different shades of white and red
Cyclamen	July or August	Winter in small pots	5in. & 6in.	6in. to 1ft.	Winter and spring	Various
Petunia	February	First prick off into shallow boxes, then pot singly	5in. & 6in.	1ft. to 2ft.	Summer and early autumn	Various
Primula	March, April and May	Pot singly into small pots	5in.	6in. to 18in.	Autumn, winter and spring	Various
Schizanthus	September	Pot into 3in. pots for winter	5in. to 7in.	1ft. to 4ft.	Spring	Prettily marked with various colours
Streptocarpus	February	First prick off, then pot singly	4in. to 5in.	6in. to 9in.	Summer	Various
Verbena	February	Pot singly	5in.	6in. to 1ft.	Summer	Various

It will be noted that Begonias, Carnations and Petunias are included in both of the above lists. This indicates that they are just as useful for one purpose as the other. In the sowing of seeds great care should be taken not to sow too thickly or to cover too deeply. Very small seeds, such as those of Begonias, Calceolarias and Streptocarpi, are best covered with a pane of glass, over which paper is laid till they germinate.

VEGETABLES.

Variety.	*When to Sow.*	*When to Put Out.*	*Distance Apart to Plant.*	*Culture.*	*Season of Crop.*
Bean, Dwarf	Late March & in April	In May when frosts are over	Rows 18in. to 2ft. apart, 9in. to 1ft. between plants	Soil well dug & manured. Give plenty of water	Summer
Bean, Climbing	Late March & in April	In May when frosts are over	In rows 6ft. or more apart, 8in. to 1ft. between plants	Soil well dug & manured. Give plenty of water	Summer and early autumn
Broccoli ..	March	End of April if weather is safe	In rows 2ft. to 2½ft. apart, 18in. to 2ft. between plants	Well-manured soil made fairly firm	Late summer and autumn
Brussels Sprouts	March	April	Rows 3ft. apart, 2ft. to 2½ft. between plants	In firm, rich soil	Autumn and winter
Cabbage, Early	March	April or May ..	Rows 18in. to 2ft. apart, 1ft. to 15in. between plants	Plant firmly and keep the ground hoed between	Summer
Cauliflower..	February and March	April or May ..	In rows 2ft. to 2½ft. apart, 18in. to 2ft. between plants	Plant firmly in good, well-worked soil	Summer and autumn
Celery ..	End of Feb. & in March	Latter part of April or in May	In trenches 5ft. apart, 8in. to 10in. between plants	Plant in well-manured trenches to earth up later on	Autumn and winter
Cucumber ..	From Feb. onwards	April in the greenhouse	3ft. apart	May be trained to the greenhouse roof	Summer
Leek	March	May and June ..	In rows 15in. apart, 8in. between plants	Put in trenches to allow of earthing-up	Autumn and winter
Lettuce ..	Winter and spring	April and May ..	In rows 12in. to 18in. apart, 6in. to 9in. between plants	The winter ones, if sown thinly in boxes, may be used in a small state for salads	Late spring and summer
Onion	February and March	April and May ..	In rows 1ft. to 15in. apart, 6in. to 9in. between plants	Before planting the soil should be made firm	Summer, aut'mn and winter
Radish ..	January and February	Not planted out from the seed-boxes	Sow seeds half an inch apart	The Turnip-rooted varieties are best for this	Spring
Tomato ..	Jan., Feb. and March	May be grown in greenhouse or planted outdoors early in June	According to the mode of treatment	Good soil is very necessary	Summer and early autumn
Vegetable Marrow	End of March or in April	End of May and in June	Allow ample space for development	Sow singly in small pots and shift into larger ones before planting	Summer

In sowing the above seeds it is very essential that they be sown thinly, otherwise the young plants will become weak through overcrowding. In most cases the seedlings should be pricked off when they can be handled without risk. A very essential point to bear in mind in connection with plants that have been raised under glass with the intention of planting them out later on is to see that they are thoroughly hardened before putting them out. If this is not done, many may perish, more particularly if the weather turns cold. A good plan when they are removed from the greenhouse is to stand them for a few days outside in a sheltered spot where they can be protected if necessary, instead of putting them direct into the open ground.

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

CHINA ASTERS FAILING (*J. C.*).—The failure is probably due to a fungus which attacks the plants at or just below ground-level, and which this year has been more than usually troublesome. Another season, as a precautionary measure after planting, you might dust the plants at ground level with air-slaked lime mixed with a little sulphur. If this is done every ten days or so it will in all probability keep the fungus in check.

WISTARIA NOT FLOWERING (*P. Ralli*).—It is not possible to say why your Wistaria fails to flower, but it may be growing too luxuriantly and the wood fails to get really well ripened. Try thinning out the shoots now and exposing the remaining wood to full sun and air. It might also do good to clear the roots here and there and cut one or two of the strongest ones through. Such root-pruning might moderate growth somewhat and so cause the plant to flower. Probably as the plant advances in age it will flower quite well, but it is quite old enough now to produce a good supply of bloom.

CRINUM POWELLII (*H. B.*).—The dividing and replanting of the Crinums may be taken in hand at any time when the foliage shows signs of maturing, and in your case, when the tracing of the bulb of the white-flowered variation is of special interest, it had best be done early, say, the middle of September, or even earlier. Bulbs of Crinums which have long occupied the same position are not the easiest things to deal with, and you will have to mark the sportive plant low down to ensure your getting it out intact. You will find the coats of the bulbs at the time stated exceedingly soft and susceptible to injury, and as the bulbs incline to go deeply, you had better open out the soil well away from the actual position of the rising stem to avoid injury to the bulbs. From your description the white-flowered form appears to be a sport.

THE GREENHOUSE.

BUILDING GREENHOUSES (*F. B. L.*).—As it is desirable that all the sunshine possible should fall on the houses, this object is best obtained by running them from north to south, with the door in the south end. If built from east to west, the north side gets no direct sunshine. In order to economise fire-heat, these houses are often sunk 18 inches or so in the ground, but this should not be done unless the situation is thoroughly well drained. It is better to build pits for the plants than to grow them on stages, more particularly as wood is so dear at the present time. The pits must be thoroughly drained. Instead of pits, a bed may be made throughout the length of the house and the occupants planted therein. When top-dressing is necessary, this can then be readily applied.

HYDRANGEAS UNSATISFACTORY (*Baronne A. de G.-Villars*).—Your plants of Hortensia Roses (Hydrangea hortensis) undoubtedly owe their unsatisfactory condition to lack of nourishment. In order to obviate this, a good plan will be to water them with a mixture of liquid manure and soot-water combined at intervals of about every ten days. Of course, when necessary they must at intermediate times be given clear water. Should this kind of food stimulant be difficult to obtain, they may be given one of the recognised plant foods, of which there are so many to be obtained. Clay's Fertilizer is a very good one. Sulphate of ammonia is well suited to impart colour to the leaves, but this can be regarded as a stimulant only, and we think that your plants require a food as well. Both of these are supplied by Clay's. This manure should be discontinued when the leaves fall, and be renewed in spring as the new growth is about to be pushed forth. In the winter the plants should have any old and exhausted shoots cut out, as it is the strong ones that produce the best heads of blossoms. This pruning, however, must not be of too severe a character. It is most probable that a good deal of the trouble originated from the plants being put originally into poor soil, a suitable compost being good turfy loam, lightened by a mixture of leaf-mould, a little bone-meal, and sand.

FRUIT GARDEN.

THE SALE OF SURPLUS FRUIT (*F. W. B., North Devon*).—Amateurs and private growers are handicapped in the sale of their produce over regular growers by the fact that their supplies are generally intermittent and in small and mixed quantities, and seldom well graded or well packed. Fruit for sale must in the first place be properly graded—first, second and third qualities. There is no difficulty in selling first quality at good prices at Covent Garden or any other open market. It is with the second and third grades that the difficulty arises. The best shops will not look at them, consequently they hang fire and ultimately have to be disposed of to hawkers for street sale. The salesmen are not always to blame. We have sold private garden produce for many years, and found the best results by selling to good, substantial private shops in large towns, grading our fruits carefully, packing with all possible care, and sending in rather small quantities twice or three times a week to suit our customers, rather than sending a larger quantity at a time. Apples and Plums are best sold by weight, and Pears by number. Railway charges are heavy at this time. We should try good shops in important towns near you, and keep to those which treat you best.

PREPARING SOIL FOR STRAWBERRIES (*Alpha*).—If the ground has been well prepared and generously manured for the growth of Celery this year, that in itself is an excellent preparation of the soil for the growth of Strawberries. Strawberries luxuriate best in fairly strong loam, so your soil will be all right. Early in March will be a good time to prepare the soil. In the first place, clear the ground of weeds if there are any, and then give the surface a dressing of well-decayed farmyard manure at the rate of six good barrowloads to the rod or perch. Double dig the ground to the full depth of the loam, but place most of the manure about the middle, as Strawberries do not root deeply. After the deep digging has been finished, add a bushel of lime and a peck of bone-meal to each perch of soil, spreading it evenly over the surface, and then fork it into the soil on a dry day 4 inches or 5 inches deep only. The ground will now be ready for planting. It is important to have strong, well-rooted plants to put out. Distances apart to plant.—Bearing in mind that the plantation will stand for three years, the plants had better not be put too close together. Let the rows be 16 inches apart and the plants in the rows 15 inches apart. Let the plants be planted carefully with a trowel, and see that the crown or top of the plant is on a level with the surface of the ground when the planting is completed. Lay the soil to the roots carefully with the hands and press firmly down, treading the soil over the roots after planting is finished (when the soil is fairly dry). Give the plants a good soaking of water should the weather prove dry. Water once a week or ten days afterwards for a month, after which time the plants will take care of themselves. After-management will consist in the frequent hoeing of the ground to keep down weeds and to aerate and add fertility to the soil. Cut away the runners as fast as they appear. The best varieties to grow will be Royal Sovereign, early, one of the best; Fillbasket, mid season, good flavour and a heavy cropper; and Givon's Late Prolific. This ripens later, and will be found a grand variety in all ways.

WALNUTS NOT KEEPING (*J. L.*).—The outer green covering or sheath must first be removed. This comes off quite easily in the course of a few days after the Nuts have fallen. It must be taken off with gloved hands or without, as you prefer. The hands will be stained in the process, but you must not mind that. Let the nuts afterwards be exposed to the sun for a few hours until they are dry. Then place them in boxes or barrels in fairly dry sand (not too dry); a layer of sand first—say, half an inch deep—then a single layer of Nuts, then a layer of sand deep enough to cover them, and again a layer of Nuts, and so on until the barrel or box is filled. Place the barrels or boxes in a cool room, shed, or cellar, and use the Nuts as wanted. They will keep in good condition for a long time stored in this way.

TREES AND SHRUBS.

SHRUBS FOR A SOUTH DEVON GARDEN (*D. B. G.*) The following flowering shrubs are likely to suit your garden (all are of a semi-tender character, but thrive in the South-West Counties): Tricuspidaria lanceolata, Desfontainea spinosa, Cordyline indivisa, Eucryphia cordifolia, E. pinnatifolia, Escallonia macrantha, Clianthus puniceus (for a wall), Guevina Avellana, Myrtus Luma, M. Ugnii, Trachycarpus excelsa, Cornus Nuttallii, Olearia macrodonta, Magnolia macrophylla (a small tree), Viburnum Carlesii, Plagianthus Lyallii, Drimys Winteri, Clematis Armandii (for a wall), Ceanothus Veitchianus, Solanum crispum, Veronica speciosa varieties, Stuartia pentagyna, Abelia grandiflora, Raphiolepis japonica, Ozothamnus thyrsoideus, Olearia Gunnii and Clerodendron trichotomum. All these plants can be obtained from Messrs. John Waterer, Sons and Crisp, Limited, Bagshot; or Messrs. V. N. Gauntlett and Co., Limited, Japanese Nurseries, Chiddingfold, Surrey.

CUTTING AN OLD BOX TREE (*T. H. K.*).—It would not be advisable to cut your old Box tree back into very old wood, but you may cut it back to wood five or six years old. The best time to do the work is early April. Should the weather be dry at the time, syringe the bush over two or three times a day until new shoots appear. If, however, there is a moderate quantity of rain at that time, syringing will not be necessary. After the pruning the ground should be surface-dressed with well-decayed manure to assist the plant to form new shoots.

INCREASING CUPRESSUS MACROCARPA (*J. H.*).—This can be increased by means of cuttings of short shoots inserted in a cold frame during July or August, but the most successful results are obtained by increasing it from seeds. Sow seeds as soon as ripe in light soil in pots or boxes, and, when large enough to handle, pot them singly in small pots, keeping them in these until they can be planted permanently. If seedlings are, however, planted out in nursery quarters when a few inches high, they ought to be moved to permanent places when no more than 12 inches or 15 inches high, as larger plants are difficult to establish. Seeds may be sown indoors or outdoors. Those in a frame usually do best, however.

MISCELLANEOUS.

CATERPILLAR TO NAME (*R. B.*).—Our utmost search failed to reveal anything except a few pieces of Cabbage leaves in the box. Can it have escaped through one of the large holes pierced in the box? It is never necessary to ventilate a box in which insects are enclosed for posting.

ROSE SHOOTS DYING (*F. T. P.*).—From your description we should consider the Roses have been too dry at the root. In such case there would also be a starved appearance of the plant generally. If the Roses were only planted this year, the trying winter conditions and lack of root fibres would account for much. If not, root dryness is the most probable cause. Rudbeckia purpurea delights in a good deal of root moisture, and unless it gets this or is planted in moderately rich, well-cultivated soil the florets not only develop imperfectly, but are poor in colour also. Try transplanting in early September to a moister and richer soil.

NEW ZEALAND FLAX (*H. L. C.*).—You would probably get seeds of this from Messrs. Barr and Sons, King Street, Covent Garden, W.C.2, or from Messrs. Thompson and Morgan, Ipswich. Generally the seeds are slow in vegetating and of uncertain germination, the plant being also of slow growth. It is hardly possible to say how long it would take to reach maturity—by which we suppose you imply the flowering stage—since the plant's growth varies with the circumstances under which it is grown. Seeds, however, should be given greenhouse treatment, and seedlings also during the first few years. In favoured districts frame treatment would suffice. The plant is a moisture-loving one, of good effect near water, though requiring some shelter in inland places generally. Plants may be obtained from most hardy plant dealers, and doubtless Mr. T. Smith, Newry, could supply your wants. These would be the more satisfactory, we think.

VARIOUS QUESTIONS (*St. Vincent, West Malling*).—The Verbascum appears to be V. Caledonia; the Phlox, P. Figaro. As received, however, we are by no means certain, while, of the former, fuller material and leafage should have been sent. The Chimonanthus appears correct so far as may be judged from leaves alone. The other plant is Chrysogonum virginicum. It is quite distinct from the Chrysosplenium. Cambridge Scarlet Monarda is not true scarlet, but a bright shade of M. didyma. The only other Pentstemons of the P. barbatus habit are its varieties Torreyi and antwerpensis, though whether you could now get them true we are not certain. P. isophylla is a graceful and charming species that is worth growing. The colour is light scarlet, the interior of the flowers whitish. The plant reaches 3 feet high. The dark-leaved Japanese Maples are the most likely for the background. They are not, however, herbaceous, though effective in colour, the leaves being also long retained. Sidalcea Listeri, S. Rosy Gem and Lavatera Olbia would give the pink colour in July, as would also a pink-flowered Hollyhock, if not too tall. Bulbinella Hookerii and Chrysobactron are synonymous.

NAMES OF FRUIT *F. E. W.*—The Queen, not Irish Peach.——*Dr. M. L. V.*—Beauty of Bath.——*J. W., Coventry*—The Plum too far gone to identify. It is not Pond's Seedling, however.

NAMES OF PLANTS.—*Boris.*—1, Veratrum nigrum; 2, Deutzia scabra var.; 3, Fuchsia procumbens.——*Rossall.*—1, Erythræa Centaurium (Centaury); 2, Hypericum perforatum—tonic and astringent properies.——*H. F.*—Jasminum Sambac (Maid of Orleans); 2, unable to recognise; 3, Peperonia argyreia.——*Miss Bourke.*—Gypsophila repens, native of Europe.——*W. J. W.*—Hornbeam (Carpinus Betulus).

RABBITS AND FRUIT TREES

AS indicating the virtues of certain whisky it was said: "'Twas great stuff; it'd make a rabbit spit at a dog." But antipodean rabbits can perform wonders without such inspiration; indeed, it is commonly held that the first importer of conies into Australia ranks high among the world's criminals. Certainly their skins and carcases produce a good deal of revenue, but it is a mere drop in the bucket compared with the damage they do. Killing fruit trees by eating the bark is bad enough, but only an inconsiderable item. Faced with the problem of preserving a badly attacked and imperfectly fenced orchard, I consulted a big book on Australian fruit culture. Custom breeds a cynicism concerning indexes. Sure enough "rabbits" was drawn blank, but there was an entry under "hares" (apparently the work entirely ignores the existence of rabbits, which is as sensible as overlooking Codlin moth or American blight). It recommended the application of various materials, none of which was speedily procurable, but local wisdom was able to suggest a panacea—to wit, smearing the tree trunks with mutton-bird fat. This was procurable and for the time is proving effective, but I doubt its lasting long. I believe such damage in England is more occasional, and only at all likely to occur during severe weather. Here it has always to be guarded against in autumn and winter. But the rabbits and hares are capricious, not always damaging trees, even with opportunity. Once started they work terrible havoc, and their depredations are not confined to juvenile trees, or to Apples alone. Rabbit-proof netting is usual for orchards, but the rabbits are prone to burrow under it—in fact, to exercise almost devilish activity and ingenuity. Opossums are also accused of barking trees (but perhaps wrongly); keeping them out presents a pretty puzzle. Britons who view fine samples of imported Apples, &c., must not suppose their production is an easy task, very many difficulties having to be surmounted, with a chance of most disappointing salesmen's returns. Perhaps more energy will be put into commercial fruit-growing in England after the war. I fail to see why it should not be at least as good a proposition at home as here.

Tasmania. A. GARNETT.

TRADE NOTE.

PROTECTING FRUIT FROM WASPS.

MESSRS. WOOD AND SONS, LIMITED, Wood Green, London, have introduced a very useful means of preserving fruits outdoors from the ravages of wasps. It is in the form of a netting bag known as the "Hexagon Envelope," which is useful for covering up Apples, Pears, Plums and other fruit. The netting is a very efficient method of protecting Grapes from wasps, being much superior to ordinary tiffany, as it allows the maximum amount of ventilation to pass into the house.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.2.*

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

IN THE GARDEN of August 25, on page vi., I gave an illustration of one of Mr. G. B. Metcalfe's "trap-nest" houses, and for the guidance of my readers I will treat upon the all-important matter of trap-nesting.

Trap-Nest the Pullets.—To carry out my plan of "hens for chicks and pullets for eggs," we will assume that the poultry-keeper has progressed to such an extent that he has several large intensive structures installed, each holding, say, fifty well-grown pullets. His poultry establishment, we will presume, has, in accordance with my system, been divided into three main sections: (1) breeding; (2) rearing; (3) laying. From the start the best material was used, we take it, in the breeding operations, giving the "hatchable" egg and the "rearable" chick. Then came the judicious handling of the growing stock, the sexes being separated early and the pullets grouped and regrouped from time to time into sizes. The surplus males were marketed early to save the food bill, and only the selected ones reserved for stock purposes next season. The flocks of pullets have been carefully handled throughout, resulting in nicely grown, forward young females. These must be trap-nested on the following lines.

The Laying Section.—It matters little how many separate flocks of pullets are possessed, as each lot will be treated similarly. Let us take the case of an intensive house accommodating fifty pullets, hatched in March for heavy breeds and in April for light or non-sitting varieties. These fifty pullets will be placed in their intensive or laying house about mid-September and allowed to settle down quietly and get accustomed to their surroundings ready for laying in October or early November. The laying-house will, prior to occupation, have received a good clean out. The internal walls will have been whitewashed and fresh scratching litter placed on the floor, while the nest-boxes will have been well supplied with nesting material. My plan is to trap-nest those fifty pullets to ascertain which are the best performers by way of egg-laying, so that they can be used in the breeding pens to improve my strain. At the same time I shall find out the drones and shall take steps to see that they do not obtain a place among my breeding birds.

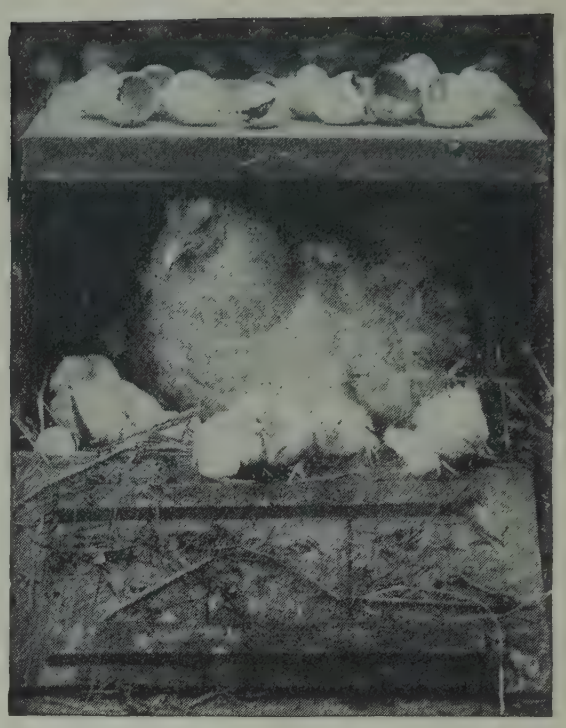
Avoid Guesswork.—Haphazard methods will not help the poultry-keeper to improve his laying strain. Guesswork is never certain, whereas the trap-nest *never tells a lie.* In every flock of layers there are workers and drones, and unless we take steps to sort out the latter, the best results will not accrue. Some pullets lay large eggs, others small, while not a few are barren and therefore unproductive. Again, many females are unproductive because they have internal disorders affecting the egg-organs. It often happens that the walls of the oviduct perish and become pierced, with the result that the yolks fall through to the abdomen cavity and there coagulate. The yolks never mature, and not until the coagulated yolks fill the cavity does the owner notice that anything is wrong. Birds affected in this way suddenly die, and in debt to their owners because they have all the time been unproductive. Other pullets will suffer from a yolk-stoppage in the oviduct, no eggs being laid in consequence. If such cases are allowed to go undetected, then I maintain that the profits are being eaten up unnecessarily. The drones invariably devour more food than the workers, and, what is more, they are usually "bullies" and upset the peace of the laying-house. My strong point is this: If the owner has to provide judicious egg-menus for his fowls, let the latter be the *productive* kind, so that the best returns can be yielded for the material supplied.

Installing Trap-Nests.—Sets of trap-nests can be purchased to-day almost as cheaply as ordinary nests. They can be had in series of from two to six nests, and they can be fitted under the drop-boards or along one of the inside walls of the house. The layer enters the nest and, stepping on a board, a shutter is released which closes up the front of the nest. The bird cannot get out until the owner releases her and resets the "trap." The nests must, therefore, be regularly visited. There are many designs of trap-nests, in some of which the drop-shutter for the front is in the nature of a blind. Whichever brand is selected, it should be a noiseless one in order not to startle the layer as she enters. It is surprising how readily the birds get accustomed to the nests. At first it is advisable, perhaps, to discard the "trap" until one or two pullets have commenced to lay, when all the nests can be set. Any nervous pullets will soon follow the lead of others that are in lay and are seen entering the nests.

Marking the Layers.—The pullets must be marked in some way, so that when they are released their eggs can be recorded in their favour. This is not a difficult matter, however. Different coloured or numbered leg-bands can be utilised, and

COMING TO MATURITY.

Black and White Leghorn pullets being "finished" on free range prior to entering their permanent winter laying quarters. Snapshot taken on Mr. K. C. Miller's Poultry Farm, Springfield, Biggar, Lanarkshire.



although the latter have their advantages, I like the former method. By adopting different coloured rings it is possible to see at a glance from which parents a bird has been bred—a boon where systematic breeding is concerned. Supposing I had a pen of Buff Orpingtons mated up, consisting of seven females and a male. The male, we will presume, wore a red ring and the seven females were rung yellow, blue, green, white, brown, black, and purple. Now, it is quite an easy matter to ring the progeny from the "red" male and "blue" female with both a red and blue circlet. Again, if the rings were placed on the *left* leg this would denote 1917 hatching, and if on the *right* leg 1918 rearing, and at any time I could tell the age of the birds at a glance. Still, if numbered rings, 1 to 50, are placed on the birds' legs, the owner must be careful to keep account of his matings, so that he can turn up the history of any pullet in his pedigree book. With either method, of course, proper accounts are necessary.

On Egg-Recording.—Supposing the owner has the choice of twelve different coloured rings and has forty-eight birds to trap-nest. He can place on the *left* leg of twelve pullets a different coloured circlet or ring and repeat the procedure on the *right* leg of the next twelve in place of the left. The third twelve birds are rung on the *left* leg exactly like the first lot, with the exception that each pullet carries in addition, say, a blue circlet. The final batch of twelve pullets are rung exactly like the third lot except for the rings being placed on the *right* leg instead of the left. There are, of course, many deviations, but I give the above as an example to make my system clear. Near the nests must be hung a recording card, and thereon must be scored all the eggs laid, and the daily scoring must appear against the correct producers. We will take the case of a pullet that is rung with a red circlet on the left leg. Directly the bird is released and the trap reset, the owner must weigh the egg and record its weight and laying against this particular pullet. He will find on the sheet "R.L.L.," which he will know stands for "red-rung on left leg." He will then score the egg for the day, its weight and colour, and any other points of merit.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C. 2.

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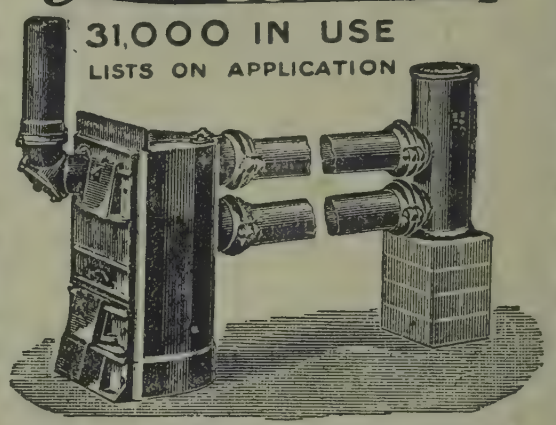

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VOL. LXXXI.—No. 2391. SATURDAY, SEPTEMBER 15, 1917.

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THE GARDEN.

No. 2391.—Vol. LXXXI.] [September 15, 1917.

NOTES OF THE WEEK

While it is important to take measures to prevent an attack of blight in Potatoes, a sudden outbreak does not necessarily mean an equally extensive infection of the tubers. As it is pointed out in a leaflet issued by the Board of Agriculture, in the case of a severe attack in August and a complete blackening of the foliage it is not necessary to lift the crop at once. It may be left with safety until the ordinary time. This advice is being followed by many, but it is important to note that when the Potatoes are dug, great care should be taken to remove the diseased tubers from the "ware." Diseased haulms should be pulled out and removed from the ground before the crop is lifted.

Cutting Off the Tops of Potatoes.—It is an interesting point relative to Potato disease as to whether the removal of the haulm checks or actually prevents the spread of the disease to the root. There are some who contend that the roots are the first to be so attacked, the disease spreading from them to the haulm.

A correspondent writes to say that he is of the opinion that the reverse is the case, and that the removal of slightly diseased haulm not only checks, but actually prevents the spread of disease, for he has not yet found a diseased tuber on plants so treated, whereas others are badly affected.

Storing the Potato Crop.—So much depends on storing Potatoes, especially after an attack of the disease. If the tubers are to keep well, it is essential that they should be stored in a dry condition, and all damaged or diseased specimens excluded from the clamp or shed. In a dry, well-ventilated clamp, disease does not spread rapidly; whereas if the clamp be wet or badly ventilated, fungi of various kinds may attack and destroy the tubers.

The Kew Staff and Allotments.—Very satisfactory results have attended the efforts of the Herbarium and garden staff of the Royal Gardens, Kew, in the cultivation of vegetables, about three acres of ground having been allotted to them for the purpose of cultivation in their spare time. The growing of vegetables evidently possesses a fund of interest to the purely botanical mind. For instance, we note that Mr. R. A. Rolfe has for the time being transferred his affections from the eccentricities of Orchid hybrids to the remarkable cropping propensities of the Potato, which has yielded twenty-fold on his twenty-rod plot. Mr. W. Dallimore, of the Forestry Museum, is said to have the finest bed of Onions in the district; while Mr. Lavender, of the Temperate House Department, has devoted a good deal of attention to Haricots, which he has seen grown extensively in France. Many plants with pods are now drying, and the results are most promising. It accords with the fitness of things that Miss Wakefield, the cryptogamist who fills the place vacated by the late Mr. G. Massee, was successful in winning the special Potato class for ladies at the recent allotment holders' show at Richmond; but the most successful exhibitor was Mr. J. Aikman, of the Director's Office, who secured numerous first prizes, including those for the collection of vegetables and for Potatoes, while his splendid Beetroots and clean and shapely Carrots were the envy of other competitors.

Styrax japonica.—This pretty shrub has two seasons of beauty, for besides the wealth of white bloom in June, it is now bearing the pretty hanging fruits in equal quantity. They look like beads of jade with a sharp point, held in the neatly scalloped calyx of pale olive green flushed with pink, the pink deepening to the slender stalk that has a curiously transparent appearance.

A FRUITING BRANCH OF STYRAX JAPONICA.

Rambler Rose Mrs. Lyttelton Dewar.—A white Rambler Rose which is little known, but is worth consideration, is that called Mrs. Lyttelton Dewar. It is a sport from Lady Gay, and originated in the charming gardens of Aberruchill Castle, Comrie, Perthshire. It differs from White Dorothy in its earlier flowering, as might be expected from a sport from Lady Gay, and has a slight tinge of blush in the centre of the flower, but is more constant in its colouring than White Dorothy. It also seems to flower more freely than the latter. A few weeks ago a good plant was to be seen at Aberruchill Castle in an ideal position—climbing up a tree—where it showed to full advantage. Rose Mrs. Lyttelton Dewar is in the hands of some of the trade growers.

Lily of the Valley Berries.—Although the Lily of the Valley appears to be shy in setting fruit, the latter is very beautiful in the wild garden at this season. Here, where we have the plant naturalised among creeping Ivy, the leafless stems, each bearing six to ten bright scarlet berries, make a brilliant patch of colour against the rich green carpeting. These fruits are often half an inch in diameter and as fine a colour as those of the wild Arum, which ripen at the same time.

Papaver pilosum hybridum.—A cross between P. pilosum and P. rupifragum (beloved of the slugs), this perennial Poppy is a most satisfactory subject for the larger rock garden, mixed border, and even for naturalising under some conditions. From a flat, spreading rosette of greyish green leaves it sends up tall, graceful stems bearing large flowers of a very generous shade of orange buff. From early summer to winter it is never out of bloom, and, though it sets seed and reproduces itself freely, it is much more easily kept in check than its relation the Welsh Poppy, for example. The latter is liable to become a terrible pest, and all who find it difficult to establish may live to regret the days they spent in coaxing it. P. pilosum hybridum is one of the best of its race for table decoration.

Plumbago Larpentæ.—This beautiful Leadwort may be considered perfectly hardy, since it endured last winter's ordeal. With us it is now full of promise and looking better than ever it did. It is a fine rock garden plant, preferring a sunny slope in light soil. The wiry, 8-inch stems form a neat little bush, and each one is crowned with a cluster of large cobalt blue flowers, which deepen into violet as they pass away. It is always one of the most attractive plants of the September rock garden and will maintain a succession of blooms until the frost comes.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

INFORMAL HUMOUR.

WHY not a bit of fun now and then in THE GARDEN? I will tell you a little tale which may give a lead to others. My flower garden is quite near the house, built in 1596 on a slope, and so needed terracing to grow the flowers and fruits of the time. I never changed the outline, seeing no need for it; but, wanting many flowers, divided up all the space in the simplest way, as plain as any chessboard. The flowers are all as God made them—Cardinal Flower, Rose, or Clematis—as I did not see how one could improve on that. Well, one day a young lady came to see me. I forget her name, but she was dressed in blue, and, mounting the few steps of my little front garden, she opened her astonished eyes and exclaimed, "Why, you have a formal garden!" What did she expect—the Nettles trying to get in at the window? I explained as well as I could that the modest scene she surveyed was only a garden, and had always been called so. It was, in fact, as simple in all ways as a cottage garden. But I think she came from a "horticultural college" and had her mind entangled between formalities and informalities. I owe her many a laugh. And since then the word "informal" has given comfort to many, like "Mesopotamia," and a man writing to me of a shrub says it is informal! In a well-printed American paper I see an account of an "informal" sitting-room, and it is a little step from that to the informal lady's hat. A man came in one day who knows a good picture on the wall when he sees one and had travelled much. Seeing my west garden, he said: "Why, it's like the Certosa at Milan!" Well, one of my many regrets is that I have never seen the Certosa, which no doubt was as simple in plan as mine, and for both the one word "garden" is good enough to last for ever, as it has already lasted some thousands of years.—WILLIAM ROBINSON, *Gravetye*.

ST. FIACRE.

I READ with much interest your reference to this Patron Saint of gardeners, about whom, I believe, very little is generally known. But in that entirely delightful book, "The Charm of Gardens," Mr. Dion Clayton Calthrop devotes a whole chapter to St. Fiacre, although he tells us there is another gardeners' Saint with perhaps a prior claim to veneration—St. Phocas the Martyr, of Sinope in Pontus, who lived in the third century. Fiacre was a prince, the son of an Irish king, and came to France as a missionary. He stayed for some time in the monastery at Meaux on the River Marne; but, feeling a call for an even more secluded life, he stated his case to the Bishop, St. Faron, who granted him a space of ground on his own domain on the Plain of Brie. Thither Fiacre repaired to live in solitude and meditation. He cleared a space in the woods, built himself a small hut, and afterwards erected a little oratory to Our Lady. Then he began to cultivate the ground, and to grow vegetables, herbs and fruits. In the course of years he became known as a holy man, and was visited by people from near and far. The people came to hear the good man preach, wondered at his garden, and were invited to eat of its produce. Also he had a great reputation for healing the sick. The Saint built another hut for those of his visitors who came from a distance, and as accommodation was still insufficient, he applied again to the Bishop for more ground. St. Faron, Bishop of Meaux, considered the matter and eventually promised to grant to St. Fiacre as much land as he could enclose with his spade in one day. Fiacre went back to his garden and, taking some sticks, he marked out far and wide in the surrounding land such a space as no man could possibly enclose with any spade in a day. Afterwards he retired to his little oratory to pray for help. Then the miracle happened. In one day all the great space he had marked out was enclosed. But a woman accused him of magic to the Bishop, who, roused by the report, came to see St. Fiacre and the miraculous enclosure. Ever afterwards the oratory was denied to women. When Anne of Austria visited his shrine in the Cathedral of Meaux in 1641, nearly a thousand years after his death, she did not enter the chapel, but remained outside the grating. The legend was that any woman entering would go mad or blind. On the site of St. Fiacre's garden a great Benedictine priory was afterwards built, where his remains were kept and did many wonderful healings, especially in the cure of a fleshy tumour called "le fie de St. Fiacre." In the beginning of the seventeenth century his body was removed to the Cathedral at Meaux.—HARRY E. THORN.

PODOPHYLLUM PELTATUM.

IN your note on Podophyllum Emodi, on page 353 of THE GARDEN, issue September 1, you describe the plant as "one of the few hardy border plants whose chief attraction lies in their fruit," and further on you say that the allied species "P. peltatum, the May Apple or American Mandrake, is also an attractive border plant in summer." May I add that another attraction of a garden seems always to me to be a consideration of the properties or uses to mankind that so many of the plants possess, but which are for the most part unknown or unthought of by the ordinary garden lover, who grows them for their beauty only. P. peltatum is an apt illustration of my meaning. The plant belongs to the Natural Order Berberideæ, and grows in moist situations all over the eastern side of the North American Continent from Hudson's Bay to New Orleans and Florida. The value of the plant economically lies in the purgative properties of the root or rhizome, a property that has long been known to the North American Indians; and although it has had a place in American pharmacy since 1820, it was not till 1864 that it was admitted to the British Pharmacopœia. The active principle of the root under the name of podophyllin is now manufactured on a large scale both in England and America.—JOHN R. JACKSON, *Claremont, Lympstone*.

COLOUR DESCRIPTION.

MR. H. H. WARNER has expressed (page 380) an opinion which will be shared by many flower lovers, for the carelessness often observed in describing the colour of flowers is both unnecessary and misleading. For example, in the same issue of THE GARDEN as Mr. Warner's note I notice Gentiana verna described as "sapphire blue," which suggests what this exquisite flower certainly has not, viz., a bluish transparency. At the same time one can make too much fuss over "colour schemes." Some people cannot see the garden for the scheme—or the absence of it. It is distressing to hear them express their views, analysing with the perspicacity of an art critic (who is seldom an artist) the poor flowers, which wither into pigments under their cold, uncompromising review. Of course, it is easy to fall into the error of making discords in our arrangements, but not nearly so easy as it used to be since the "turgid mosaics" of the bedder went out of fashion and Begonia ceased to scream everlastingly at her rival Geranium, despite the quiet admonitions of the little peacemaker Lobelia. To-day the greenery of herbaceous border and rock garden is usually enough to foil the effect of clashing tones, so that the latter are neutralised. This is Nature's way, and that is why I often tell the scheme artists to "Consider the Lilies of the field, how they grow. . . ."—A. T. JOHNSON.

ALTHOUGH it is desirable that people should be educated into the proper use and description of colour in the flower garden and elsewhere (the numerous colour-blind persons will probably remain so), yet we can but admit, with Dr. Cecil Osburne, that "many of these glorious subjects (Irises) are quite indescribable." The tone of many blue, mauve, lilac, purple and red flowers is not only difficult to describe in words, but also in water-colour or even in oil; and it is almost impossible to reproduce accurately in colour-printing, particularly by the modern three-colour process. It may be invidious to mention names, but, among modern writers, perhaps Messrs. E. A. Bowles, G. Flemwell and Reginald Farrer have succeeded best in describing the colour of flowers. Of course, the first two are artists, and Mr. Farrer has a style of his own which is hardly of a conciseness suitable for catalogues. When I was writing "Alpine Plants of Europe" and two subsequent books about plants, nothing, except the difficulty of fondly attempting to get the coloured plates correct, gave me so much trouble as how to express in a word or two the colour of certain blues and purples, and reds of the "magenta" group. It is surprising how inaccurate in their colour-descriptions some of the best botanists have been. Sir J. D. Hooker in his "Student's Flora" shows clearly in this and other ways that many of his descriptions were drawn from herbarium specimens, and that often he could not have seen the living plant. To dip at random into that book, it appears that he did not attempt to define the exquisite colour of Geranium pratense (when the sun shines through it the blue appears aglow with red), or of Gentiana Amarella and G. germanica; and of G. Pneumonanthe all he says is "corolla bright blue inside." Again, Vicia Cracca "bright blue" (!), V. sylvatica "white with blue veins" (still in blossom on September 1 and the markings are, as usual, pale purple or mauve), V. sativa "pale purple" (usually a vivid purple-red and often crimson). French botanical and horticultural books are often unsatisfactory in regard to colour: "bleu" and "violet" are used in the vaguest way. The French vocabulary is so full and yet sometimes so perplexingly inadequate! However, I believe the most complete published work on colour is a French one. So many tints and shades are given in that book it would be impracticable in ordinary life. Surely cold-purple and warm-purple are artistic terms comprehended by all; and yet blue-purple and red-purple and other hyphenated combinations are useful and excusable, just as they may be the easiest way out of a real difficulty.—H. STUART THOMPSON.

PERE D'ARDENE.

AS Mr. Harman Payne surmises, the "Bibliographie Universelle" throws a little light on Père d'Ardène. He was born at Marseilles in 1689, was superior of the college of his congregation, and later retired to the Château d'Ardène, where he died on December 5, 1769. Of the "Année Champêtre" only the first volume was completed, and this dealt with the kitchen garden. No special mention is made on the treatise on Auriculas, but a reference is made to five treatises "des renoncules des œillets, des jacinthes, &c." so there seems some reason to suppose that this work did exist.—E. A. BUNYARD.

AN EASY METHOD OF DESTROYING WEEDS IN A LAWN.

I THINK if your correspondent Mr. Kipping will dig up one of the Plantains "killed" by sulphuric acid a month or so after the operation he will find it is by no means dead, but that there are several minute shoots starting from the base, and the following summer, instead of one weed, he will have half a dozen. Sulphuric acid kills the top, but does not penetrate the long tap-root unless inserted by means of a pointed instrument—a difficult business, especially as many of the roots will be found to turn off at an angle; at least, that was my experience. A far better plan is to place a good teaspoonful of agricultural salt in the *centre* of the crown of the Plantain, and, to avoid a spotted appearance on the lawn, this should be done early in the spring when they first begin to show. The grass soon covers the weed, which is seen no more. If the following plan be adopted, it need not prove a back-aching business. Get a good-sized funnel, large enough to hold a few pounds of salt, but with a small opening. Fix this on to a walking-stick, an inch or so from the bottom, and fill it. When the point of the funnel is over the centre of a Plantain, give a slight tap on the ground with the point of the stick, and a small amount of salt will fall out. Of course, there are numerous seeds in the ground, and it is impossible to clear a lawn in a single season; but if the above method be carried out it will prove efficacious, and the large, flat-leaved Plantain is the easiest weed to eradicate. —HEATLEY NOBLE.

[See also the advice given by Mr. A. H. Pearson, page 390.—ED.]

BUDDLEIA VARIABILIS AND BUTTERFLIES.

LAST autumn you published several letters referring to the great attraction this fine shrub has for butterflies, which is more marked this season than I ever noticed before. I have counted as many as twenty gorgeous Peacocks greedily sipping the nectar from the blossoms at the same time, as well as a good number of lordly Red Admirals, Small Tortoiseshells and Whites. Another splendid visitor to the Buddleia is the Silver-washed Fritillary, which comes sailing down from the woods to the feast, and is not at all a common garden insect. Up to the present my list numbers a dozen—Large, Small and Green-veined Whites, Silver-washed Fritillary, Small Tortoiseshell, Peacock, Red Admiral, Speckled Wood, Wall Brown, Meadow Brown, Large Heath and Holly Blue. I have seen a White-letter Hairstreak close to the Buddleia, but it did not alight on it. Painted Ladies are scarce here so far, but will probably turn up before long. It would be interesting to know what other species your readers have noted at the Buddleias. We have a regular plague of Whites this year, and I find the Buddleia useful in attracting their attention when netting them. All the other butterflies mentioned are absolutely harmless in gardens and are a great attraction. The Peacocks come over in swarms from an adjoining orchard, where their caterpillars have completely stripped dense clumps of Stinging Nettles.—N. G. HADDEN, *West Porlock, Somerset.*

SILVER-LEAF DISEASE.

I NOTE the remarks—issue August 25, page 345—by "H. C." on this subject, which is very prevalent in some districts. He does not mention it among Apple trees; it appeared among these in various parts some six years ago, also among Currant trees. I have had experience of it in Apple trees, but it does not worry me in the least. I do not go to scientists for a cure; I take a common-sense view of the matter. I do not attempt to cure it by rubbing the bark with some decoction, knowing that the disease is much more deeply seated in the constitution of the tree; therefore I attack it through the roots. Some five years ago I had a tree of Apple Norfolk Beauty that had been grafted on to a twenty year old tree of Warner's King. The tree was badly attacked by silver-leaf, which contracted the growth in both shoots and leaves. In the April following I took out a trench, 6 inches deep, down to and among the roots 5 feet away from the stem. Into this trench I scattered crystals of sulphate of iron, repeating the trenches around the tree until a complete circle was made 10 feet in diameter. Six pounds of the crystals were used. When growth began, the silver-leaf was equally present to that of the preceding year, to the extent of 1 foot of new growth. Gradually a deeper tint of green appeared with an increase of leaf size and vigour in the shoots until, by the end of the season, the leaves were double the size and the main shoots a yard in length. The following season the lower leaves displayed slight traces of the disease, but the subsequent growth was free; indeed, since then it has been rather too much so. Owing to the somewhat limited space, I have not been able to combat this luxuriance of growth as I should like.—E. M.

VERONICA TRAVERSII.

THE recent season has been remarkable for the free blooming of nearly all flowering shrubs, no doubt owing to the good ripening of the wood in the severe winter. The illustration shows the unusually full bloom of a short hedge of Veronica Traversii in Colonel Lionel Benson's garden in West Surrey. It was planted fifteen years ago in the ordinary sandy soil of the district. It is now from 10 feet to 11 feet high and was completely covered with bloom down to the ground. This useful New Zealand shrub is one of the hardiest of the Veronicas. It grows well by the sea and is good to plant in exposed places, where the tough, elastic branches remain quite unhurt by rough winds.—G. J.

A HEDGE OF VERONICA TRAVERSII 10 FEET HIGH.

PLANTING POTATOES WITH A DIBBER.

I QUITE agree with "E. M." in your issue of August 25 that there are two ways of doing the same thing—"a right and a wrong"—and I venture to suggest to him that this applies, not only to the use of a dibber, but also to planting Potatoes. Presumably the dibber was used in the right way in my case, as the man who employed it had over forty years' experience in its use. It was not my intention to prove the impossibility of getting a crop by this method, but that it was certainly the wrong way of planting Potatoes. "E. M." practically admits this, for he describes what he considers the "best of all" methods, and gives the reason, namely, "loose soil is around the Potatoes entirely, and nothing in the way to prevent root penetration." Quite so! Then why use a dibber? The ground where my Scotch seed (Sir J. Llewelyn) was planted had been broken up many times, very liberally treated, and had great depth of soil. When I discovered a dibber was being used I at once stopped it. A small corner, about a sixth of the whole in extent, was still unplanted. I had this finished with a spade, as is done always in my place in Ireland. The yield from this was quite satisfactory, and many times greater than that from the part where the dibber was used. Imagine the time and labour expended in planting a two-acre plot with a dibber, placing fine soil in each hole, and putting all seed at a uniform depth of 6 inches. My reply to your other correspondents is this: If they can get good crops by planting with a dibber, they can get infinitely better results by using a spade in the proper manner.—CECIL A. P. OSBURNE.

POTATOES IN BUCKINGHAMSHIRE.

AN interesting Potato item is this. Everywhere round here for miles the Potato haulms are standing gaunt and leafless, whether sprayed or not, with the exception of one field grown by a Scotchman, whom the inhabitants of this village look upon with awe in the matter of Potato growing. They say he never gets disease, and certainly it looks as though he has a way of getting over this pest, for his is the only field which has green "tops," and not only green, but healthy. It may be due to late planting (he usually plants the last week in May) as well as spraying three times, because I have two rows which I planted the first week in July and have been sprayed twice since in the rain, and there is not a trace of disease among them.—C. P.

THE PLAGUE OF "CABBAGE WHITES."

THE plague of the caterpillars of the Cabbage White butterfly, like most other caterpillar pests, is, and has been, very troublesome in these parts. To reduce their numbers all gardeners should make an effort. I am therefore much delighted to read of Mr. Clarence Ponting combating them with arsenate of lead mixture. Most people are very cautious about its use. This is quite a mistake, because the amount of poison used is not sufficient to cause harm to persons who happen to eat the Cabbages. Besides, one would not spray a crop that would be cut next day or even next week. Arsenate of lead is the best thing going, because it *kills* the enemy. The solution is made to the strength of ¾lb. to 1lb. of arsenate of lead to twenty-five gallons of water. Up to 1½lb. or 2lb. may be used if desired. I must confess to "W. D." of not having tried the salt and water remedy.—L. M. M., *Droitwich.*

Mealy Bug on Vines

THOSE who are so unfortunate as to have Grape Vines infested, though ever so little, with this filth-producing insect should make an attempt to destroy it before the leaves fall. Even with Grapes hanging it is possible to do much to lessen its numbers, if not to kill the whole. Like Thistles of the field, once it is allowed to gain a footing, the extent to which it may increase no one could possibly conceive. I am aware of two instances where gardeners were obliged to wash every bunch of their Grapes when cut, in order to clean them of the dirt with which they were smothered. These may be exceptional cases, but no one can be certain that bug-infested Vines, however slight may be their number to-day, will not reach a condition similar to those just noted. With care Vines may be cyanidised as soon as the bunches are cut without the least harm to the matured foliage. The method has been described in THE GARDEN, and here it may merely be remarked that in America a considerably less amount of cyanide is employed and the vinery kept shut all night, danger to vegetation being thereby lessened to the vanishing point, while the lengthened exposure to the fumes is destructive to the insects. For the past few years, when mealy bug has been observed either on Vines or plants I have fumigated with Nicotine Compound. At first I was rather careful as to the amount used, having been warned that an excess of the quantity recommended by the vendor might be harmful. Happily, I found the amount could be very considerably increased, and it is quite as fatal as cyanide, without any risk to the user.

Another simple insecticide fatal to mealy bug, but not so searching as fumigating, and therefore not so certain in its effect over all the Vines, is hot water applied through a common syringe. Provided the water is clean and none is applied to the bunches, it does its work effectively and leaves only a scarcely discernible mark on the tip of the lowermost berries. The more pure the water the less the mark, which is merely matter held in suspension in the liquid.

While there is no time like the present, before the insects have hidden away in winter quarters, to effect their destruction, it is needful to take steps in the winter to make assurance doubly sure. Acting on the advice of a gardening friend who had at one time a bitter experience with dirty Vines, I have used Gishurst Compound for the last year or two with which to wash the rods. It is one of the oldest insecticides, and I have found it to answer well as a winter dressing. Last winter the Vines were so clean that the usual "scraping" to which the bark is ordinarily subjected was omitted, and nothing has happened to induce a return to former practices. After the washing the rods are painted with a tar solution sold under the name of Smearoleum, which is mixed with about nine parts of clay. But so much clay is not necessary, as I discovered in this manner: The lads who were occupied with painting the Vines ran out of material, and while I was out of the way mixed some for themselves, with the result that I found a number of the rods black with tar instead of brown with the mixture. Not the least harm resulted. I knew the material was used to paint young forest trees, but was rather anxious as to how it would affect so tender-barked a subject as the Vine.

Apart from measures such as have just been recommended, Vines may be treated in a manner that will either induce the rapid propagation of this insect or, on the other hand, prejudice its spread. It is a fact perhaps hardly recognised that the Grape Vine is cultivated under conditions of temperature, moisture and pruning which are artificial to a degree. It is absolutely hardy, and requires only a longer season of growth with a modicum of artificial heat, far less than it is the custom to provide it with to perfectly perform its functions. It is clear that the hot stove treatment to which it is subjected suits exactly the insect under discussion; while a cooler treatment with more ventilation is unfavourable to its rapid increase. Moreover, the system of allowing sublaterals to grow is also conducive to its spread and increases the difficulty of destroying it. Sublaterals are of no advantage to either the Vines or the cultivator, as their suppression on trial would be sure to prove. To sum up: At present fumigate with ½oz. to 1oz. of cyanide to 1,000 cubic feet of air space, keeping the vinery close all night, or fumigate with double the amount of Nicotine Compound recommended to kill mealy bug. As a deterrent in future give the Vines a longer season of growth, which means a lower general temperature and less moisture in the atmosphere; also suppress all but the primary leaves.

R. P. BROTHERSTON.

THE CULTIVATION OF MUSHROOMS

GOOD CROPS MAY BE GROWN BOTH OUTDOORS AND IN SHEDS. THE PROCESS IS INTERESTING AND SIMPLE.

IF you want to make money out of a small holding, grow Mushrooms. The writer is personally acquainted with several growers who, although not owning more than a few acres, are yet making most enviable incomes.

GATHERING MUSHROOMS.

Only a portion of the bed should be uncovered at a time.

The first essential is fairly short stable manure, which, until required for use, should be stored beneath a shed. Any open, temporary building will answer the purpose, provided the roof be rainproof. Then ten days before it is to be used it should be turned at least four times, a day being allowed to pass between each turning, and water applied to the manure if the turning is drying it unduly. It should be kept in that condition of moistness that it clings together when squeezed in the hand. The object of the turning is, of course, to let the air into it and thus purify it. The next process is to place the manure in neat ridges, about 2½ feet wide at the base and about the same measurement in height, but measuring only some 6 inches across the top. As the manure is placed in position, a few forkfuls at a time, it should be beaten and trampled together quite firmly. Then, the ridges made, they should be covered with straw to prevent rain from reaching them, or, if the weather is warm, to help them to retain their moisture. Three days must be allowed to go by, and then the straw should be removed and small holes bored from the top to about halfway to the ground and about 1 foot apart to let off superfluous heat, and the straw put back again.

The planting of the spawn, as a rule, takes place some fifteen days after this, when the temperature of the ridges should be about 75°. The spawn bricks are broken into seven or eight pieces, and the pieces planted about 9 inches apart and 3 inches deep. A week or ten days later the spawn should be examined, and if it presents a mouldy appearance, the covering of the ridge with earth—which is the next process—should begin. Good mould only should be used; that from the garden and that of a clayey nature is unsuitable. The mould should be turned at least three times, then be watered, left for a few days, and finally placed on the ridge to the depth of about 2 inches, being patted smooth and firm with the spade as it is placed in position. The mould—take notice—should be in that condition of moistness that it works quite easily, slipping nicely from the spade and retaining the position in which it is placed. Mould that is too dry crumbles to the base of the ridge, while that which is too moist is inclined to crack after a few days.

The next process is to cover up the ridges again. Those that have been made in sheds are covered with straw only; those in the open air with both straw and tarpaulins. This is not because darkness is essential, but to help the beds to retain an even temperature, which should never be less than 75°. Occasionally all straw should be removed, shaken up with a fork, and put back again. Mushrooms will begin to come in from a few weeks to a couple of months, according to the climatic conditions. Gathering should take place every morning, and the beds should be cleared of all but the very smallest Mushrooms, care being taken to leave no stalks in the ridges. Outdoor ridges do not bear prolifically during the greater part of the winter, unless the weather is very mild, but good crops can be obtained from beds made in sheds.

For the market the Mushrooms are merely packed in small baskets, with a sheet of paper tied over the tops. Thus packed they will travel safely any reasonable distance, and arrive at their destination looking fresh and attractive. The price goes up and down between 1s. 6d. and 6d. a pound.

J. C. BRISTOW-NOBLE.

BOTTLING FRUITS—IV

ON PRESERVING MULBERRIES, BLACKBERRIES AND PEARS WITHOUT SUGAR.

IN my last contribution I promised to deal at a rather later period with a few other fruits, which conclude the bottling season. These are Mulberries, Blackberries and Pears. There are, of course, other fruits than those I have dealt with, but the majority prove very unsatisfactory from a preserving point of view. For instance, Grapes are useless when bottled. Apples, again, do not preserve well, though so successful as a dried fruit; but seeing that in normal times we get such a continuous supply of this fruit owing to the large Colonial and foreign importations, it is immaterial whether they may be bottled or not. Figs can be preserved, but as their chief glory is as a raw fruit or dried they need not be considered; so I will content myself by dealing with the three I have mentioned.

Mulberries.—This delicious fruit, which, strange to say, is somewhat scarce in some parts of the country and far from well known, bottles well, and is a very palatable and useful culinary adjunct. It should be selected in a ripe state, but care should be taken to choose only firm fruits, avoiding any that are inclined to be at all squashy. Remove any stalks and fill the bottles tightly with the fruits; then add the water or syrup, completely filling the bottle, and bring up to 160° Fahr., maintaining this for about five minutes. Then seal carefully with the lid or stopper, and set on one side to cool. Do not wash the fruits prior to bottling.

Blackberries.—Large ripe fruits should be selected, but, like the Mulberries, not over-ripe. Remove all stalks and see that the fruits are quite clean. A word of caution here: The larger and finer the fruit, the greater the possibility of a maggot being found feeding on it, and this is where every care in looking over the fruit should be exercised. It will not harm the Blackberries to wash or rinse them, and where they are gathered from the hedgerows this should be done, for the dust raised by passing motors, &c., finely peppers them. Fill the bottles with fruit and either syrup or water in the same way as for Mulberries, and heat, seal and cool as usual. With this fruit there is a chance for the Apple to shine as a preserve, for fine results can be obtained by peeling the Apple (using a silver-plated knife) and cutting in rings, the core being first removed with an Apple coring knife. These rings can be put into the bottles with layers of the Blackberries in between, and the delicious Blackberry and Apple preserve obtained for making tarts, which are generally such great favourites with children. Rubus laciniatus is a fine cultivated variety, though the common hedgerow Blackberry is first class for preserving.

MUSHROOM GROWING: PART OF A MORNING'S GATHERING.

Pears.—With Pears care should be exercised in their preparation. They must of necessity be peeled to remove the tough outer skin, and again the silver-plated knife should be employed. As they are peeled throw them into cold water to preserve their colour, for Pears when peeled, if exposed to the air for even a short time, will rapidly discolour, an effect which is far from nice when bottled. Once in the water they can be taken out as required and cut in halves or quarters and the core removed, returning to the water the portions not being handled. It is best to have some of the syrup or water ready in the preserving bottles to place the fruit in as prepared, adding more liquid as the fruit reaches the top; this will ensure the colour being kept good. Heat up to 160° Fahr., or rather more if the fruit is very hard, and keep at this temperature for from five to ten minutes; then remove, seal, and set in a cool, draught-proof place to cool off. The fruit should be selected for bottling when in a slightly under-ripe state. Among the best varieties for preserving are Louise Bonne of Jersey, Beurré d'Amanlis, Durondeau, Glou Morceau and Marie Louise. If preserving Pear Catillac, heat for a much longer period than that given above. I prefer to boil this variety first; it responds well to this treatment.

This finishes my series of articles on preserving fruit by bottling, and in concluding I would once again reiterate that fruit can be most successfully bottled in this way without the use of a single ounce of sugar, and is then ready, when the fresh fruit season has passed, for use, adding then the requisite amount of sugar for the purpose for which used—a most acceptable attainment in these days of food economy and when the sugar ticket is likely to make its appearance and the weekly ration of sugar for a household is a strictly meagre one. By following the hints I have given, every success can be attained, and I say this with confidence, having practised what I have preached. Where proper preserving bottles cannot be afforded, ordinary jars can be utilised, and the sealing effected by using oiled fat. A fat that sets firm and hard when cool should be selected, such as mutton suet; butter, margarine or lard only being useful in a lesser degree owing to their oiling at a lower temperature than that recommended.

Aldenham. (Mrs.) E. J. BECKETT.

Choice Apples and Pears

THIS is just a brief selection of Apples and Pears. The varieties mentioned each possess some special merit and should be planted in every garden.

Apple Margil.

This first-rate flavoured and free-cropping variety should be found in all amateurs' gardens, as where Cox's Orange Pippin fails this pretty Apple succeeds either as a cordon, bush or half-standard. The fruit is a little smaller than that of Cox's Orange Pippin, the colour light russet, tinged with deep red on the side next to the sun. The shape of the fruit is slightly oval; flesh yellow, and the juice sweet and abundant. It is in season from December to March, and is a valuable dessert Apple.

Apple Gloria Mundi.

This is a culinary sort, and is in demand for the huge specimens of fruit it produces, one of them, weighing over 2lb., having been sold in the open market for £16—truly a goodly sum for a single Apple. This variety has been known for 100 years, being of American origin, but it has never met the general wants of the public, no doubt owing to the tree being a shy bearer. This fruitless condition can be overcome by restricting the root action, easing the planting position by placing slates around the sides of the hole and one at the

bottom. Plant cordon trees and summer prune, when large fruit may be expected. Of course, attend to watering and mulching.

Pear Triomphe de Vienne.

This fertile and most prolific Pear can be highly spoken of. The tree grows clean and rather upright, therefore takes little space on the ground, and makes an ideal variety for small gardens. The fruit is large, conical, bright yellow, with russet markings and red flush; the flesh white, very tender, juicy and melting, and of excellent flavour. The tree thrives in most soils and situations. Trees six to eight years old have carried over 100 luscious fruits of large size. The fruit is in season in September. Plant cordons, bushes or half-standards.

Pear Conference.

This variety should be in every garden where Pear trees are planted, if only as a pollinator. It has been found to have an "affinity" to every variety in bloom at the same time; and as a prolific cropper it stands unequalled, either as standards, bushes or cordons. The fruit is of medium size, long-necked, dark green, with brown russet, and has a pinkish tinge on the sunny side. The flesh is melting and of good flavour. It is a good market sort, hardy, and is not affected by the Pear midge. The fruit is in season in October and November. HEREFORD.

GLEN CLOVA

By W. HERBERT COX.

SOME OF THE RARE AND BEAUTIFUL PLANTS THAT GROW WILD IN GLEN CLOVA ARE FOUND SCARCELY ANYWHERE ELSE IN THE BRITISH ISLES.

MOST of us who are now flower-lovers learnt our first lessons in the plant lore of the British Isles from the writings of Anne Pratt. We must all then have been struck by the fact that when that clever lady mentioned a particular rarity, how often the locality given was Glen Clova, and we looked forward to the time when we, too, should ramble in this glen and meet its treasures as she appears to have done so often.

Among the plants found in Glen Clova, but scarcely anywhere else in the British Isles, are the following: Ranunculus alpestris, with its small white flowers and its usually trifid leaves, which is not rare on the highest Alps. Oxytropis campestris, allied to Astragalus, but the keel ends in a fine point. The flowers are yellowish, but with a purple tint. The yellow Saw-leaved Hairy Cinquefoil (Potentilla opaca), which resembles both P. verna and its variety alpestris, but the leaves are deeply cut and the stems are stouter. Elsewhere it has only been found at Balquhidder. Another Potentilla, called tridentata, was stated to have been found by Mr. Dow on the shores of the little Loch Brandy. This being an American kind otherwise, the statement was much doubted, as were several other localities given by him, which have since proved to be correct.

The glen is some fifteen miles long, with nothing but a few farms. The hills on each side are steep, covered with Heather, among which brown-faced, long-tailed sheep graze, and grouse whirr past. Down these sides fresh mountain burns dash, Fern shaded. The rocks by them make charming gardens, all bespangled with blossom. The many-flowered golden clusters of Saxifraga aizoides form dense carpets, but S. stellaris is less conspicuous by having fewer flowers. On the hills above, two others may be found—the popular purple oppositifolia and the compact-spiked nivalis. The little yellow Pansy (Viola lutea) is there in plenty, also the pretty pink Polygonum viviparum. By the sides of the River Esk, which runs through, the golden globes of Trollius europæus glisten, while the striking mulberry blossoms of Comarum palustre and the feathery clouds of Thalictrum alpinum rise from a bed of Forget-me-nots.

There are occasional little woods. One I noticed was thickly carpeted with the charming white sprays of Pyrola rotundifolia, and in others the Chickweed Winter Green (Trientalis europæa), called locally Toad's Clover, was very happy.

By the roadsides, catching the dust, Bald-money (Meum athamanticum), with its beautifully pinnated leaves and threadlike leaflets, may be noticed. With it there is plenty of Lady's Mantle, and also the charming Alchemilla alpina, with a wonderful silvery lustre under its leaves. Two pretty Geraniums grow there—the blue sylvaticum and the maroon phæum.

Halfway up, in the mere at Drums, I noticed the little yellow, short-spurred Bladderwort (Utricularia minor) rising through the water from the

A GLEN CLOVA BURN.

submerged plant, which is supported by small bladders of air.

Many Orchids grow in Glen Clova, but not in great variety. Under the Heather I was pleased to see the delightful little Twayblade (Listera cordata), which seems so refined and dainty after its somewhat coarse elder brother. It is particularly plentiful at Bachnagairn under the Rowans. The delicious Fragrant Orchis (Gymnadenia Conopsea) and the mauve-spotted Orchis maculata with its white variety are very common.

Above the glen is Loch Brandy, a typical Highland loch, in which grows the strange Water Lobelia (L. Dortmanna), with slender, leafless stems and drooping, light blue flowers. Among the Heather round about, in a peaty mess you may see the Sundew, masses of Harebells, the Melancholy Thistle (Carduus heterophyllus) and Chrysosplenium oppositifolium. A prostrate, Heath-like shrub, the Crowberry (Empetrum nigrum), with small purplish flowers peering from the axils of the leaves, grows there too. Still higher up in the deer forest, not far from the haunts of the golden eagle, another prostrate shrub forms dense cushions. This is an Azalea (A. procumbens); but how distinct from our garden kinds! The stems, covered with rigid, turned-back leaves, are all tangled together; out of them appear clusters of tiny, flesh-coloured flowerets.

Glen Clova ends at Braedownie, and divides. To the right is Bachnagairn, through which a path goes to Ballater, and to the left is Glen Doll, from which Braemar may be reached. Above Braedownie the Black Bearberry (Arctostaphylos alpina), with white flowers, tinted with purple, grows. Admission to Glen Doll is not easy to obtain, it being strictly preserved, and fierce Highland cattle guard the entrance; but in it grow some plants only found in this locality and perhaps one other in the whole of our isles. Mulgedium alpinum, the Blue Sow Thistle, is chief of the treasures. After a stiff clamber and a struggle over a waterfall I succeeded in finding it. I am not sure if this was the only plant, for Lochnagar in Aberdeenshire is also sacred to it. There was a goodly clump, but it shocked me to see that someone recently had been hacking away portions of it. My suspicions were firmly fixed on a well-known plant dealer who had been up there the day before. He shall be nameless, but for this sin I registered a vow never to purchase from him. The little bells of Linnæa borealis have been found under this waterfall. Though described as "depressed" and "abject," the greatest botanist, Linnæus, was not too proud to give it his name instead of to numerous beautiful things which he might have chosen. Astragalus alpinus, which is a spreading thing with spikes of drooping white flowers, tipped with purple, and hanging black legumes, I did not see, but believe it still lingers in the unclimbable braes above, and, maybe, nearer Braemar. A tiny Fern, Woodsia hyperborea, seldom more than 3 inches high, is another of this glen's treasures only found there and at Isla. The frond is between spear and strap shaped, the leaflets being bluntly triangular, the stems almost hairless, which distinguishes it from its slightly less rare brother ilvensis, also found in the glen. I noted there the Moonwort (Botrychium Lunaria), famed in fairy lore.

There are also a few more interesting plants, but not so appallingly distinguished. Pyrola secunda differs from its relations by having its flowers, which are greenish, all leaning one way. The Mountain Sorrel (Oxyria reniformis) resembles

the Rumex in habit, but the leaves are kidney instead of arrow shaped, and the flowers green, not rusty. The Scottish Asphodel (Tofieldia palustris) is dingy, not having the spikes of golden stars like the Bog Asphodel, which is common in Clova. The Mountain Cudweed (Antennaria dioica) is a pretty little thing, with heads of white or rose coloured everlastings. High on the rocks was Sedum rhodiola, well known in most rock gardens, a broad-leaved, succulent thing, the root of which is scented like Roses; and the charming purple flowers of Geum rivale.

A certain part of Glen Doll was almost carpeted with the tiniest of our native Orchids; some which were in blossom could not have been more than half an inch high. Many distinguished botanical writers state that the leaves of Malaxis paludosa are spotted on the margins, but they are wrong, for the so-called spots are in reality propagative buds which germinate and become tubers. It is the only true epiphyte of our native Orchids, producing a wee egg-shaped bulb growing above the mosses. I also found it at Drums. On dried ground I saw the little Frog Orchis (Habenaria viridis), which is often overlooked on account of its dingy appearance. The sweet-scented Bicchia albida grows there too.

Perhaps these notes have been somewhat indiscreet in giving away the localities of some very rare plants, but, before closing, I should like to beg flower-hunters not to be too ruthless in tearing them away from their homes, as many are so exceedingly difficult to cultivate in gardens.

Notes from a County Down Garden

THE note in THE GARDEN—page 341, issue August 25—regarding Phormium tenax is a particularly acceptable one, having regard to the fact that the price of tying material is so prohibitive. The Golden Willow also is very useful to grow for purposes akin to this, and a few cuttings might now be propagated. It is sometimes difficult to name an annual out of the ordinary run of the penny packets, and one notes the name of Rhodanthes. The Nemesias are also useful for variety. Planting Potatoes with a dibber would be a very expeditious method, and the results given seem to be very satisfactory. I note with interest the illustration of the combined Tomato-Potato plant, and I think for seed purposes—that is, for raising and hybridising new varieties of Potato—a graft of a Potato on to a Tomato plant might give extraordinary results.

I have sometimes wondered if Beet, Parsnip and Carrot could be easily transplanted, and would like some information on this subject, as "the task of filling up the blanks I'd rather leave to you." "Anne Amateur" complains of weeds being dug in. Well, we had the finest Raspberries this year we ever had, and the weeds, which were a foot high, were carefully dug in without injuring the roots. This is what farmers know as a "green manure," and is full of the ingredients required for the crop—nitrogen, phosphates and potash—so it is always a good thing to *audi alteram partem*.

This is a quiet time in one's garden, and the gathering of the harvest continues. Apples are a fair crop here, but Plums and Pears are scarce. One is always learning. It is well to remember to get in a good space of first-early Potatoes to make room for the Brassicas; also to get all the ground required trenched early. A branch of the Herb-Growing Association has been formed here, and should do good work. All the same, when the war is over I think the chemists themselves should purchase large tracts of land suitable for the purpose in the Colonies and elsewhere, and not depend on outsiders for their supplies. I quite agree with "Anne Amateur" about fragrance in a garden: "Awake, O north wind and come thou south, blow upon my garden that the spices thereof may flow out."

Holywood, County Down. W. S.

Heracleum Mantegazzianum

THE older Heracleum (H. giganteum) has been superseded in gardens by this finer kind. There is not much difference in the great umbels of bloom, but the giant leaves are distinctly handsomer, the surface more polished, and the edges deeply and sharply cut. It is a native of Abkhasia, a small Russian province at the foot of the Caucasus next the Black Sea. As with the older kind, it prefers a damp place, but does not refuse to grow anywhere. It is best sown where it is to grow, for not only are the plants stronger, but there is a difficulty in transplanting seedlings from their having a kind of glassy joint at the crown which is easily snapped. It is one of the seeds least agreeable to handle, as it has a strong and very unpleasant, goaty smell. G. J.

HERACLEUM MANTEGAZZIANUM FROM THE CAUCASUS.

On the Northern Slopes of the Maritime Alps

BY EDWARD H. WOODALL.

TRAVELLERS to the South of France will probably remember crossing a stony river-bed near Avignon where the Durance joins the Rhone. Anything barer or more unprepossessing could hardly be found, yet once above the old-world town of Digne there are many valleys of sufficient attraction to summer travellers in search of pure air and cool mountain nights. Though this region as a whole is sadly stony and bare, there are yet some beauty spots well worth exploring, and the mountain district near the Italian frontier and pretty Barcelonnette deserves the reputation it is steadily gaining. As I have said before, until the height of 6,000 feet above the sea is attained, there is no alpine vegetation, but there are many curious and local plants of interest before that elevation is reached. A monograph might well be written on the wonderful Thistles that spring up in the stoniest and most barren spots. Some are of giant stature with pure white flowers, but most are *absolutely stemless*, with huge entire, leathery leaves and central "bosses" of flower or buds that look like Artichokes in miniature, 2 inches and 3 inches across, corrugated and brown before opening, and expanding to straw-coloured Carline Thistles of huge size, or sometimes to regular mauve or grey or rich purple Thistle flowers, often tightly compressed into a compact flowery mass very ornamental for a few days.

The miles of Lavender that clothe the stony slopes and the great variety of pretty shrubs with Pea-shaped flowers that are unfamiliar to more northern regions are often of real beauty, rivalling the Cistus bushes of the South or the Rhododendron ferrugineum of the Northern Alps. For miles in the Valley of the Verdon the sandy wastes and boulders near the moraines or torrents are carpeted with the dainty Paronychia capitata, which sets off the cushions of Campanulas, Lotus, Tunica Saxifraga (so varied in colour here and a score or more of annual plants that spring up through Sedum album and other succulents. On the mountain tops the Leontopodium or Edelweiss is so abundant that a shepherd boy volunteered to bring down several kilos of its flannelly flowers if I would buy them. There are many albinos among the flowers, and friends one day brought down such a quantity of white Gentiana verna of such size and such purity that one hoped "some had been left to seed and propagate itself"! A cream-coloured form of Orchis conopsea is not uncommon, and white Linums take the place of the Blue Flax so well known elsewhere.

On high ground near the Pass of Allos there is a fine Phyteuma of vigorous growth with as nearly black heads of flower as can well be imagined. It certainly deserves the name of nigricans, and was singularly long-lived when cut and in a vase. A bunch of it and the fragrant Habenaria or Butterfly Orchis will live in my memory as a specially delightful thing. Is it, I wonder, in English gardens? I do not remember to have seen it. Aster alpinus is so dwarf as to be extra

ornamental among the stones, and varied so greatly in its time of flowering that for two months I was always able to find a bloom or two, low down at first, and latterly on high ground near the Edelweiss. It is curious to see how greatly the cold springs that gush out of the rocks in many places affect the growth of plants. I saw Orchis latifolia in flower in a marshy meadow in mid-June, yet within half a mile of that spot O. latifolia was only just coming into flower, where the icy water of a spring fresh from the rock had retarded its growth, when I left *two months later!* The blue Echinops on the stony mountain-side is much more beautiful than when in a garden, and a silvery-leaved and slender-growing variety with apple green flower-heads is a ubiquitous weed of considerable beauty. Altogether the district affords much interest of the unexpected kind.

Peach Culture Under Glass

PEACHES and Nectarines in the open air do not succeed well in many parts of the country, but where they do, as I remember them at Somerley, Ringwood, Hampshire; Compton Verney in Warwickshire, and Lathom House in Lancashire, the returns more than justify the careful treatment given them. Huge crops of fine fruits were gathered nearly every year. Under glass the trees are more constant in their bearing, but even in such favourable conditions there are many failures, mainly owing to unsuitable positions, insect-infested leaves, lack of water after the fruits are gathered, too close an atmosphere through insufficient ventilation, wrong treatment when the trees are flowering and, perhaps above all, wrongly constructed borders.

During the past thirty-five years I have had experience in the cultivation of Peaches, both under glass and in the open air. I have always favoured the system at planting-time of cutting back the branches of young trees possessing from three to five or seven leaders, and I still favour it. But in the autumn of 1915 I decided to plant some Peaches one year older—trees that had been cut back once in the nursery—and not to prune them at planting-time—late in October. The trees were three weeks on the railway during very frosty weather, but were well packed. I immersed the roots in water for many hours, then planted them in prepared borders in cut turves and the ordinary gravelly soil, 10 per cent. of the bulk consisting of lime slaked a year previously and exposed to the air during that time. I planted rather more shallowly than when the trees were growing in the nursery, and made the soil very firm indeed. Last year a few fruits only were left on to mature; this year from fifty to seventy fruits per tree, and I regret not leaving just eighteen more on each tree—there are six—as the growth has been very strong and I prefer to arrest it judiciously by cropping rather than by pruning.

Summer pinching of the shoots is favoured by me, and the formation of fruit spurs all over the tree, in addition to well-matured shoots, which I like to tie in 4 inches and 5 inches apart. It is only necessary in the autumn to cut out a few branches that may be badly placed. The trellis area covered by each tree now is 12 feet by 10 feet. The foliage is clean, because of the general health of the trees and the syringing. All the trees resemble the one shown in the accompanying illustration. The varieties are Duke of York, Peregrine, Bellegarde and Royal George; the latter is the one photographed. The trees are under glass, but grown without artificial heat as yet being turned on. Perhaps these few particulars may interest some readers who intend planting this autumn. GEORGE GARNER.

A GOOD CROP OF PEACH ROYAL GEORGE IN AN UNHEATED GREENHOUSE.

Rose Mme. Jules Margottin.—With the advent of so many novelties this delightful climbing Rose seems to have been almost elbowed out, as I have not seen it in a Rose catalogue for a number of years. This is to be regretted, as it is a Rose with many good qualities. Its flowers are of a bright rose colour and are borne in great profusion, it is an early bloomer and goes on flowering for a good while, a good grower and a sweetly fragrant Rose. Will not someone endeavour to repopularise it?—CALEDONIA.

A COLUMN FOR THE CURIOUS

Answers to "Rose Posers."—(1) Sub rosa.—I have read (quoted from an old book of garden lore, &c.) that the badge of an ancient secret society called "Roscurians" was a full-blown pink Rose with a pink bud on either side. (2) I fancy the historical Rose mentioned is the Rose of England, or York and Lancaster (Rosa damascena), which unblushingly flaunts both the "red and white" in a striped effect on one flower. I hope these answers are what the Rev. Joseph Jacob is seeking. The third question I fear I must leave for a cleverer than I to answer.—M. F., *Somerset.*

SUB ROSA (UNDER THE ROSE).—In strict confidence Cupid gave Harpocrates (the God of Silence) a Rose to bribe him not to betray the amours of Venus. Hence the flower became the emblem of silence. It was for this reason sculptured on the ceilings of banquet-rooms to remind the guests that what was spoken *sub vino* was not to be uttered *sub devo.* In 1526 it was placed over confessionals. The banquet-room ceiling of Haddon Hall is decorated with Roses (French, *parler sous la rose*). The white Rose full of buds means secrecy, but E. B. Browning says, "Red as a Rose of Harpocrate."—"Isobel's Child," III.—C. D. L., *Claygate.*

FROM THE GOLDEN BOOKS.

A WHITE ROSE.

The red Rose whispers of passion
And the white Rose breathes of love;
Oh, the red Rose is a falcon,
And the white Rose is a dove.

But I send you a cream white Rosebud,
With a flush on its petal tips;
For the love that is purest and sweetest
Has a kiss of desire on the lips.

—JOHN BOYLE O'REILLY.

Mignonette and Rain.—Owing to various causes my bed of Mignonette has this year resolved itself into about half a dozen wretched-looking plants. One evening in July, after a spell of fine weather, happening to pass the spot where these miserables were growing, the whiff of scent that I got was so unexpected and strong that I mentioned it to the old lady—my housekeeper's mother—who lives with us. She at once said, "There will be rain"; and sure enough there was rain before the morning. She has since told me that when she was at her first place—now well over fifty years ago—the farmer's wife used to grow a good deal of Mignonette, and whenever it smelt more than usual she would say to her: "The Mignonette is very strong to-night, wench; there will be rain." Since the little episode described above, I have asked several people if they have heard of the strong smelling of Mignonette foretelling rain. Not one of them has. Mignonette, I believe, was unknown in Britain until the middle of the eighteenth century, so the prognostic cannot claim a hoary antiquity like the truth in the old saw:

"Evening red and morning grey,
Are certain signs of a fair day."

Is it, however, at all widely spread, or is it very local only; or even quite individualistic, being confined to this farmer's wife and those who were brought into personal and intimate contact with her? I imagine that the period when this natural "weather-glass" works must be at the best only of somewhat limited duration, as I doubt if it would act whenever the temperature falls very low. Might I ask for comments on the above? The point is interesting.—JOSEPH JACOB.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—No doubt the crop this season will be the means of causing much controversy as to the value of spraying. Many plots that were carefully sprayed twice are not immune from disease, but they are considerably less liable to tuber attack than those that were not sprayed. A strong point in favour of timely spraying is that the growth is maintained much longer in a healthy, vigorous state than otherwise; therefore this prolongation, even if only for two weeks, must accelerate the growth of the crop. No time should be lost in lifting all crops where the haulm has ceased to be of use to the tubers. Carefully dig and sort the Potatoes into three sizes at the one handling—large, seed and small—the latter to be used for pigs or poultry. Even diseased tubers should not be wasted. Any tubers showing the slightest sign of disease should be discarded, for fear of contamination of the remainder. Place all under cover for future storage when they are perfectly dry.

Cauliflowers.—Protect the heads by tying the leaves over the crown; this will keep the flower white and more tender. Make a sowing of Walcheren in a cold frame for wintering under glass, to be planted out in spring or grown on in pots or boxes.

Cabbage.—Complete the planting of the main batch on firm ground, where Onions, for example, were grown. The land will not need digging, as Cabbages like a firm rooting medium. Cover the soil for 6 inches around each plant with finely sifted coal-ashes to ward off slugs, which are very numerous owing to such a continuance of wet weather.

Spinach.—Make the final sowing of Prickly or Round Spinach in drills 15 inches apart on newly dug ground for early spring use. This I regard as one of the most valuable of winter and early spring crops.

Brussels Sprouts.—Where the early sown batch of plants are a yard high or more, if in an exposed site they should be supported, as they are liable to be blown over by strong gusts of wind. Clear all decaying leaves from the plants, as they disfigure the Sprouts when left to rot over them.

Fruit Under Glass.

Young Vines.—Vines planted this spring have made satisfactory growth, as a rule. If not already done, pinch the point out of the leader to induce the basal eyes to plump up and aid the maturation of the rods. Reduce the lateral growth by degrees where this has been allowed to ramble freely, with the idea of assisting root action.

Early Grapes.—Vines from which the crop was cut in June should now have the laterals removed, cutting back the side shoots to within 1 foot or so of their base to assist in developing the basal eyes from which the next season's bunches will be had. Thoroughly wash the foliage vigorously with a hand syringe or hose pipe to cleanse the leaves from insect pests, especially red spider. See that the roots are not suffering from the want of water.

Late Grapes should have aid given them in ripening their crop by warming the hot-water pipes nightly and during dull days so that air can be admitted freely to dissipate condensed moisture. During the colouring stage the roots should be well supplied with moisture in the shape of liquid manure; failing this, a sprinkling of Thomson's Vine Manure will aid growth as regards the foliage and the size of the berries.

Strawberries for forcing should be finally put into their fruiting pots, using a moderately rich compost and ramming the soil firmly in the pots. Stand them on a bed of coal-ashes or boards in an exposed situation, where they will grow sturdily.

The Hardy Fruit Garden.

Selection of Varieties for future planting should now be made, especially of Apples, Pears, Damsons and Plums, as of these personal inspection can be made to note if certain varieties meet the requirements of persons and are adapted to special localities as to soil. In so limited a space I am unable to name many sorts; nor is this necessary, as often too many sorts are planted. It is much better to plant two trees of one desirable variety than two sorts.

Apples.—Kitchen varieties: Lord Grosvenor, Grenadier, Norfolk Beauty, Newton Wonder, Lane's Prince Albert and Bramley's Seedling. Dessert: Beauty of Bath, Worcester Pearmain, Cox's Orange Pippin, Blenheim Orange and Ribston Pippin.

Pears.—Williams' Bon Chrétien, Louise Bonne de Jersey, Doyenné du Comice, Pitmaston Duchess, Josephine de Malines, Brown Beurré and Marie Louise.

Plums.—Standards: Rivers' Early Prolific, Czar, Belle de Louvain, Washington, Jefferson, Victoria and Monarch. Bushes: Laxton's Prosperity and Laxton's Supreme, Early Transparent Gage, Jefferson and Count Althan's Gage.

Damsons.—Prune, Merryweather and Bradley's King.

Where new plantations are to be made or old ones reorganised, no time should be lost in preparing the site by deep trenching, remembering the more thorough this is done at the start the less trouble and expense and the greater success there will be in the future. In stiff soil fruit trees cannot be satisfactory if slipshod methods of preparation and planting are adopted. It is much better to do the work thoroughly at the start.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cultivating Ground.—I would very strongly advise all ground as it becomes unoccupied to be cultivated. There is not labour for trenching if the other departments of the garden are to be kept in fair condition, but ground may be turned over to a depth of 18 inches by simply inserting the spade, not across the spade-wide trench, but lengthwise, when a gentle pressure sends the top spit into the bottom of the trench last opened, the under spit being then placed upon that. This method takes little longer time than digging, and is of much greater benefit to the soil. But even simple digging, leaving the importation of manure to a more suitable time, is advantageous, should deeper cultivation be impossible.

Potatoes.—All except the latest varieties should be lifted, the edible size stored for use, and the seed size placed preferably in shallow boxes and stood in a frost-proof building till spring. It is not essential that it be light so long as they are moved to the light in time for growth to commence, and where space is limited the boxes may safely be placed one on top of the other. Another method is to place the tubers in a pit or clamp with a thick covering of straw above them and a 9-inch layer of soil above the straw. In this case there is a tendency in the tubers to sprout too soon.

Fruit Under Glass.

Tomatoes.—Late-planted Tomatoes now ripening in heated pits, if growing in borders should receive no more water at the roots, only the soil should be as firm as it is possible to make it, and if water has been regularly applied till now, the crop will ripen with the aid of slight fire-heat right on to the New Year. The foliage should be greatly reduced in quantity, not doing this at one operation, but by degrees.

Cucumbers.—These will now require a fair amount of applied heat to bring the fruits to perfection, none of which, however, should be allowed to grow to large dimensions, unless where the cook occasionally asks for a full-grown one, when that person's requirements must be studied. Plants that have been fruiting since April or May will soon, if not already, not be worth keeping. They should be cleared out directly it is seen that they fail to respond to treatment, in order that vermin does not gain a footing and so be introduced into an otherwise clean structure.

French Beans.—Where these are forced, a beginning should now be made by nearly filling the required number of 7-inch or 8-inch pots with a sound compost, sowing five or six seeds of Osborne's Forcing in each, and placing the pots where the plants receive the maximum amount of light. Heat, however, is essential.

The Flower Garden.

Carnations.—No time should be lost in planting well-rooted layers of the hardier varieties. I must mention that owing to war disabilities I planted a lot, including flakes and bizarres, in undug hard soil, and they succeeded just as well as if the greatest preparations had been made for them. Those to be wintered in pots should also be seen to and placed so that means for throwing off heavy rains can be adopted. Do not stint them by placing in very small pots.

"Making Up."—Some of the herbaceous plants in borders will now have finished flowering, and if the display is to be kept up as long as possible, late-flowering plants in reserve should be transferred to stations to either take the place of these or at least to cover their nakedness. Plant somewhat deeply, soak with water, and shortly afterwards level the soil round the stems. If the plant is tall, a short stake to steady it will be needed.

Hollyhocks.—Seeds of these will be ripe, and should be sown at once in a seed-box and stood in a temperate structure, so that germination may be delayed as little as possible and the resulting plants kept slowly growing through the winter months. The greatest success is obtained with the Fig-leaved varieties at this late date.

Pentstemons.—Cuttings should now be taken and either dibbled into a bed of prepared soil in a cold frame or into cutting-boxes. The cuttings should be as long as one's middle finger, and must never be allowed to flag or, once inserted in soil, to become dry. The splendid Calceolaria amplexicaulis demands similar treatment, and should also be taken at once. Flowering shoots of both should be avoided and fresh side growths only taken.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

Pruning Rambler Roses

IT is now recognised that the proper time to prune Rambler Roses is directly they have flowered, or certainly not later than September. The main point to study is the maturation of the current season's growth before frost comes, which often considerably affects the soft, sappy growths, thus reducing the flower crop the following year. The greatest quantity and the finest flower-trusses are produced from the stout shoots made the year previous, which grow as much as 15 feet long in a single season on such varieties as American Pillar, for example. Shoots that have flowered this season should be cut away entirely from the base, except in a case where similar new growths are scarce and where there is any likelihood of a scarcity of flowers. To meet such a prospect of a shortage of flowers, a sufficient number of the most promising shoots that flowered this season should be left, spurring in to two eyes the short flowering shoots. From the basal eyes much bloom will be obtained, not quite of the strength or class which new and more vigorous shoots would give, but better than none. The same treatment will apply to plants put in last season, which cannot be expected to yield a full quantity of furnishing material the first year. By this method of pruning a fairly good display can be had.

If a well-established plant has eight new shoots from the base, these are ample to give a full flower crop; or even six will suffice if they are strong. The best method to adopt is to cut away all shoots or branches not required, then tie securely, but not too tightly, to the supports—pole or otherwise—taking off the point of the sucker-like growths 6 inches above the pole. If the plants are standing independently, a full flower crop right from the base can reasonably be expected from all varieties of the Wichuraiana type, which are the best adapted to this form of training owing to the natural habit of growth right from the base.

In pruning the variety Tausendschön and its white sport, which are two first-class rambling varieties, an exception should be made in both. Neither of these varieties is so free in throwing up sucker-like growths as many other sorts, but by retaining the older shoots and treating these on the spurring principle a full crop of flowers can be had. The blooms of this Rose last longer than any other sort I know, which is a point in its favour.

When the plants are pruned and made secure to the supports, it is a good time to enrich the soil to assist the growth and flower crop for the

next year. Half-decayed farmyard manure forked lightly in about the roots is one of the best of stimulants. Failing this, ground bones or superphosphate at the rate of half a pound per square yard will be a good substitute.

Swanmore, Hants. E. MOLYNEUX.

Comments on "The Garden"

MAY I be permitted to follow in the footsteps of "Anne Amateur" and make a few notes, rough though they may be? In these days of stress one has not the time and scarcely the energy to sit down and write an article, and yet one is often inclined to add a note or comment to something which has appeared in the pages of THE GARDEN.

First, I should like to say a word of appreciation. THE GARDEN has always been a favourite of mine, but of late it has been charming. Setting aside any matter of controversy, what a treat we had in reading Mr. Engleheart's letter the other day; quite an education in style and virile language, it made one absolutely envious and somewhat fearful of putting pen to paper; and, again, on page 363 we have Mr. Goodwin's happy notes on the "Land of the Bilberry," redolent of air from the Clun hills. These things are helpful in times like the present—a break in the daily round and common task calculated to take our thoughts for a short time from wars, strikes and the Food Controller.

But to turn to other matters, I am not at all surprised that "E. M." has waited fifteen years for a crop of Benoni. I also at one time thought very highly of this Apple, which I procured from Messrs. Rivers some thirty years ago. We worked up a stock of young trees, but as they did not sell, a considerable number were transplanted, and the second year following their replanting they had the finest crop of handsome fruit I think I have ever seen on any variety. Alas! it must have been an expiring effort, for in the next ten years we scarcely saw a fruit and the trees came to the fire.

Sulphuric acid is all very well for destroying weeds in your lawn, if you do not manage to drop it on your clothes or fingers (I have done both), but I much prefer the little hand weeder registered No. 27786. I can lift a Plantain, Dandelion, or small Daisy quite as quickly with this as one can apply acid to them, and there is no question of making holes if the work is done properly. Put the fork fairly close to the plant, insert it nearly vertically into the soil, lift, pull out the weed with the left hand and press down the soil with the foot. I have taken some hundreds out of my tennis lawn this evening, and I know I should have a tottering time if any holes were visible as the result of my labours. The secret of lawn weeding is to lift the enemy while young. Some people defer action until the autumn, when tennis and croquet are over, with the result that such things as Plantains and Dandelions get very strong, and not only leave holes when lifted, but destroy a considerable patch of grass each, and, above all, leave a plentiful crop of seed behind them for the coming season.

It is surprising how artful the broad-leaved Plantain is in producing seed. His natural bent is to send up flower-spikes well above the foliage, but put the mowing-machine over him and he says, "This is no go at all"; so he grows his flower-spikes under the leaves, flat along the ground, and there the seed ripens despite the lawn-mower. Again, you can lift a seedling Daisy at this time of the year with the utmost ease, but if you let the plant get established it throws out underground creeping stems, and it is then impossible to lift without making a considerable hole which will need filling with soil.

Some people wonder why Providence gave us weeds in the garden. The obvious answer is, to ensure cultivation and so benefit the crops; but I fail to find what end they serve in my lawn except to keep me from getting too stout and stiff. Anyway, they are likely to provide me with exercise for some time to come, for however many one takes out, the lawn-mower, or some other agency, seems to fill up their places with seed carried from another portion of the grass which is mown, where weeding is not so strictly done.

Lowdham. A. H. PEARSON.

ANSWERS TO CORRESPONDENTS

KITCHEN GARDEN.

RUST ON CELERY (*D. S.*).—This is a fungoid disease and difficult to cure. The best remedy to apply is to spray the leaves with Bordeaux mixture. If the plants derive no benefit from this application it is useless to try any other; better dig up the plants and burn them.

WART DISEASE IN POTATOES (*W. M., Ayrshire*).—The Potato was very badly attacked by the disease known as black scab or wart disease, due to the fungus Synchytrium endobioticum. The grower must give notice of the outbreak to the Secretary of the Board of Agriculture, Edinburgh. It is stated to be the only one in a crop of Abundance so attacked, and it is probable that this plant was a rogue, not belonging to the true type of that variety. Only varieties immune from the disease may be grown on this land in future.

DAMAGE BY SPRAYING POTATOES (*A. W. H.*).—We cannot say in this case whether the common Potato disease is answerable for the trouble described, as no specimens were sent. Reports of damage done by spraying have been received from some sources, but investigation seems to have shown that, generally at any rate, the damage has been due to previous injury, to improper preparation, or to some cause other than the spraying. The chemicals themselves have given satisfaction generally, we believe.

FLOWER GARDEN.

MONTBRETIA AND IRIS LEAVES SHREDDED (*C. W.*).—The damage has undoubtedly been done by the caterpillar of a small moth, which feeds upon Irises and allied plants in just the way you describe. You will find it difficult to detect, as it is quite green, of a shade similar to the leaves, and as this is so, hand picking, which is the best method of dealing with the pest, is rather difficult. You will find spraying with lead arsenate of some assistance, but as the foliage is waxy this does not adhere very well.

ABOUT HARDY FUCHSIAS.—What is the name of the enclosed Fuchsia? It dies to the ground in the winter and springs up again each year about 2 feet high; but doubtless you will recognise it without description. My little hedge of it is so gay—a welcome feature at the end of the now rather *passé*-looking rock garden. I have had it many years, and it asks for nothing more than an occasional breaking up and replanting of the clumps. Unfortunately, the rounder-flowered bush form—the Fuchsia of Wales and the West Country—is tender here in Cheshire, and requires a great deal of coaxing, though, much to my surprise, a small plant did survive the frightful winter. I have been told that if you can get it through the winters while it is quite tiny it will do afterwards, but this early stage has been my defeat again and again. Is this bush, so delightfully common in the West, Fuchsia globosa? [Yes.—ED.] And what is mine, the slender-flowered kind? [F. Riccartonii.—ED.]—F. E. W.

SELECTIONS OF HARDY PLANTS (*C. E. G.*).—The following are among the best varieties of the species and groups you name. Anemone japonica: alba, Lady Ardilaun and Queen Charlotte. Aster Amellus: Riverslea, King George, Perry's Favourite and Onward. Tall Asters: Beauty of Colwall, Climax, cordifolius Diana and Novæ-Angliæ Lil Fardell. Campanulas: persicifolia alba grandiflora, p. Grasslocke, p. Moerheimii and p. Telham Beauty. Erigerons: speciosus superbus, Quakeress and S. B. Ladhams. Delphiniums: Persimmon, Rev. E. Lascelles, True Blue, Queen Mary, Lizzie Van Veen and Lamartine. Helenium: autumnale rubrum, pumilum magnificum and Riverton Gem. Heuchera: sanguinea Walker's Variety, Rosamund and gracillima. Helianthus: H. G. Moon, multiflorus plenus and tomentosus. Iris (Flag varieties): pallida dalmatica, Isolene, Jacquiniana, Queen of May, Mrs. C. Darwin and Iris King. Kniphofia: aloides grandiflora, excelsa, Red Cap and John Benary. Papaver orientale: Jenny Mawson, Grenadier, Lady Roscoe and Waterloo. Phlox: Elizabeth Campbell, Goliath, Météore, Baron von Dedem, Mrs. E. H. Jenkins and Le Mahdi. Verbascum: Caledonia and cupreum. We have arranged for a series of articles on the newer Roses to commence within the next few weeks.

FRUIT GARDEN.

WHITE SCALE ON PEACH TREES IN ORCHARD HOUSE (*Moseley*).—This is one of the most difficult pests to get rid of we have. It used to be prevalent many years ago, but of late we have not seen or heard much about it. One of the best remedies we know of is to syringe the trees, after the leaves are off, with rain-water of a temperature of 125° Fahr. This will loosen the scale, when it should be gently brushed off, taking the greatest care not to injure the buds on the young branches. The scale must be collected and burnt, as must also the leaves as they drop. The surface soil also to the depth of 3 inches should be taken up and burnt, say, for a distance of 16 inches in front of the tree and as far as it extends on either side.

OLD ESPALIER PEAR TREES NOT BEARING FRUIT (*Ivy*).—There is nothing else for it but to root-prune in the case of trees which continue to make gross growth and refuse to bear fruit. The way to root-prune is to dig a trench in the shape of half a circle round the tree at a distance from the stem of 3½ feet. Let the trench be 18 inches wide and 2 feet deep. Cut all the roots with a sharp knife you come in contact with. Break down the wall of the trench next to the tree until a good body of roots is come to, cutting off the points of all roots not cut before. Clear away all the old soil, filling up the trench afterwards with the best of the old soil and turfy loam, half of each well mixed together. Cut up into pieces the size of one's fist, remove the surface soil near the stem deep enough to expose a good body of roots, and then top-dress with the new soil as above to the depth of 4 inches, adding a sprinkling of bone-meal to the soil for this purpose and pressing it down firmly. The best way to find out whether the Pears are fit to gather is to gently lift them up with the hand to a horizontal position. If they are fit to gather, they will drop into the hand without any pulling. If they do not, let them remain on the tree until they do. Store in a moderately cool, dark room with not too much air. If you care to send us a sample, we can probably name them for you.

MISCELLANEOUS.

BOTTLING FRUIT IN COLD WATER (*F. S. L.*).—Others have experienced the same difficulty in getting rid of the air bubbles. Happily, it has been overcome. See note by Lewis F. Barton in THE GARDEN for September 8, page 368.

KETCHUP MADE FROM HUSKS OF WALNUTS (*Kew*).—This is an old recipe, going back quite a hundred years. Ingredients: Half a sieve of Walnut husks, two quarts of water (salt), half a pound of Shallots, an ounce of Cloves, an ounce of Mace, an ounce of whole Pepper, and an ounce of Garlic. Put the Walnut husks into a pan with the water and a large quantity of salt. Let them stand for ten days; then break the husks up in the water and let them drain through a sieve, putting a heavy weight on top to express the juice. Place it on the fire and remove all scum that may arise. Now boil the liquor with the Shallots, Cloves, Mace and Pepper; then put the liquor into a pan, and when cold bottle and cork closely. It should stand six months before using. Should it ferment during that time, it must be again boiled and skimmed. Time: About three-quarters of an hour. Seasonable about September, when the Walnut husks are obtainable.

PUBLICATION RECEIVED.

"The Perpetual Flowering Carnation," by Montagu C. Allwood. Published by the Cable Printing Company, Limited, Hatton House, Great Queen Street, W.C.; price 1s. net.

Dumfries and District Horticultural Society.—This society held its fourth free gift sale of flowers, fruit and vegetables for war charities on August 25. Provost S. Arnott, Maxwelltown, presided at the opening ceremony in St. Mary's Hall, Dumfries, and Provost T. S. Macaulay, Dumfries, declared the sale open. Nearly £80 was realised, and this would have been much exceeded but for the stormy weather during the week.

The Late Mr. E. E. Riseley.—The Linnean Society has recently sustained a heavy loss by the death of its librarian, Mr. E. E. Riseley, who was killed in action last month.

Mr. C. H. Buck.—From our advertisement pages it will be seen that Mr. Buck's nursery at Ipswich is offered for sale. We are extremely sorry to make this announcement, owing to the sad conditions under which it is brought about. For some years Mr. Buck has been in a state of ill-health, and now, while yet in early manhood, he has to seek absolute rest away from all business cares. Notwithstanding his illness, his mental energies and bold enterprise have brought him to the front rank among his compeers. We understand that, until it is disposed of, the business will continue to be carried on as hitherto.

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Caledonia, bright scarlet	1/–	7/–
Elegans, rich dark scarlet	1/6	10/6
Ellen Willmott, soft canary yellow	2/–	14/6
Gesneriana Major, rich crimson	1/6	10/6
Golden Crown, yellow with red edge	1/–	7/–
Inglescombe Pink, pink, flushed salmon	1/6	10/6
Macrospeila, glowing crimson	10d.	6/–
Picotee, white with rosy crimson edge	1/3	9/–
The Fawn, specially recommended	2/–	14/6

FOR OTHER VARIETIES, SEE LIST.

DARWIN TULIPS.

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Baronne de la Tonnaye, large rose	1/9	12/6
Clara Butt, pale rose pink	1/6	10/6
Donders, rich shining dark red	1/9	12/6
Erguste, fine dark heliotrope	3/–	21/–
Europe, carmine scarlet	2/3	16/–
Isis, glowing crimson-scarlet	2/6	18/–
Loveliness, charming bright rose	1/6	10/6
Madame Krelage, rosy carmine	2/-	14/6
Maiden's Blush, delicate blush-pink	1/9	12/6
Margaret, soft blush-pink	1/3	9/–
Mr. Farncombe Sanders, finest scarlet	2/–	14/6
Pride of Haarlem, large rosy crimson	1/9	12/6
Salmon King, rose, shaded salmon	1/9	12/6
Suzon, large pale rose and blush	2/6	18/-
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Dairymaid, white with yellow cup	1/6	10/6
Emperor, best yellow trumpet	1/2	8/–
Fairy Queen, pure white flower	2/6	18/
Golden Spur, early yellow trumpet	1/–	7/–
Grandee, good late, bicolor	1/–	7/
Horsfieldi, popular bicolor	1/2	8/–
Leonie, most reliable	1/6	10/6
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Mrs. Langtry, best cheap Leedsii	1/2	8/
Obvallaris, early yellow trumpet	1/3	9/–
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Anemone, Fulgens	1/3	9/–
Bluebells	6d.	4/–
Chionodoxa, light or dark varieties	1/–	7/–
Grape Hyacinth, Heavenly Blue	1/–	7/–
Ixias, finest mixed	8d.	4/–
Lachenalia, Nelsoni	4/–	30/–
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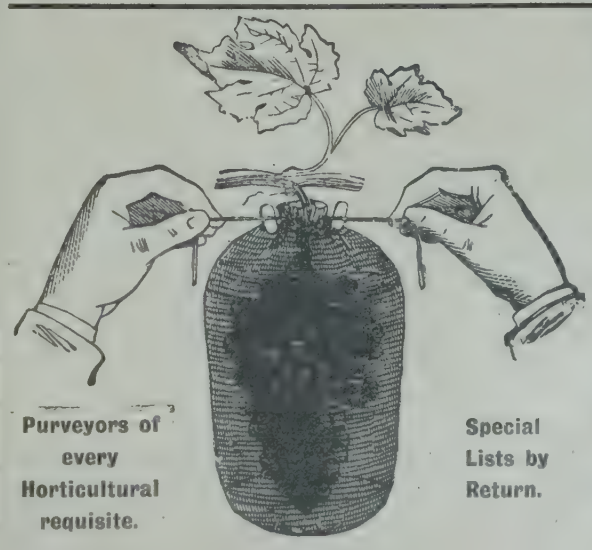

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(Guaranteed Scotch Grown)

FOR AUTUMN DELIVERY

Owing to the scarcity of eating potatoes in the early summer months, early varieties were dug up in unusually large quantities. The result will be a serious shortage of seed.

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FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

BEFORE giving further hints on trap-nesting the laying stock during the first or "pullet" season, I will briefly outline the objective in view.

An Eye on the Breeders.—The well-matured pullets when quartered in their intensive laying-and-trapping-houses for the winter will be trap-nested for the entire year, *i.e.*, their first or pullet season of laying. When June comes round, the egg-totals from the previous October will be carefully added up. Those that have passed the test will be allowed to moult late and be reserved for the next breeding season. They will not be hurried in the moult, but allowed to come on to lay normally in time for breeding operations. The drones can be marketed at once or at any time previously, if desired. The medium layers can be hastened through the moult and brought into lay again by October or early November to yield a second supply of winter eggs, when they can be disposed of to the best advantage; or they can be force-fed for a final batch of eggs and the moult postponed. Prior to the moult they can eventually be disposed of.

Study Size of Egg.—One can always find plenty of people desirous of getting new-laid eggs in *numbers*, but how few are the poultry-keepers who take steps to obtain *size* and *colour* with quantity! Trap-nesting is the most certain method of breeding a strain of large-egg layers, and that is one reason why I strongly recommend the trapping of the pullets. Even in the case of professional poultry-breeders I could name certain strains which are noted for small eggs, because the owners go "all out" for number irrespective of size. There are many reasons for small eggs, upon which I had better comment to help my reader follow my line of argument. Underfeeding, lack of the right feeding material, shortage of shell and a deficiency of clean drinking water are among the causes; hence the importance of proper feeding on egg-producing lines. An egg consists of well over 50 per cent. of water, so that the drinking vessels must be kept constantly supplied with fresh water. The continual use of pullets in the breeding pens, the utilisation of immature and badly grown females as breeding stock, and early laying (whereby the eggs laid from the start are undersized) are other reasons for small eggs.

Weigh all Eggs.—Where trap-nesting is practised, it is advisable to weigh every egg laid and to credit the responsible pullet with the correct amount the egg scales. The *modus operandi* can be carried out inside the homestead to facilitate matters. When a pullet is released, her distinguishing mark is written upon the egg she has just laid, and the eggs are taken into the homestead. Here they can be weighed and the exact weight of each egg credited to the individual layer on a special egg-recording sheet. An egg bearing the letters "R.L.L." will indicate to the owner that the layer is the pullet with the *red* ircle on the *left leg*, and he can keep two record-sheets. There will then be one in the poultry-house hanging near the trap-nests, and a second or general use in the homestead. On the former can be scored the eggs laid, these being credited to the respective producers, and on the latter can be detailed the weights, colour and any other useful data. The exact method of recording the eggs laid is best left to the owner, who can study local circumstances.

Study Colour of Egg.—In the case of brown eggs it is very beneficial to note the colour characteristics of each and record the description on the sheet. There is a great advantage, where breeding for egg-production is concerned, in using as the head of each breeding pen a male hatched from a deep-coloured egg. Where trap-nesting is not carried out, one cannot do better than use the deep-coloured eggs for hatching purposes. If one egg in particular stands out from the rest for richness of colour, and if the chick hatched therefrom can be permanently marked, I strongly recommend such a procedure. Should the bird turn out to be a cockerel, he can be used to full advantage in the breeding pen. Day-old chicks can, of course, be readily marked either by toe-punching or the use of numbered or coloured leg-bands. It is then quite an easy matter to trace their antecedents. Those females which stand out from the rest as layers of good-sized and nice deep-coloured eggs will prove useful in the breeding pens to produce not only high-class progeny, but also good "stock" cockerels.

Stamp Out Broodiness.—One often hears the cry that heavy breeds give too much trouble from broodiness to warrant their being kept when compared with non-sitting varieties. Broodiness, like small eggs, can be stamped out of a strain by trap-nesting and the judicious selection of the breeding stock from the trapped pullets. One can improve the good points of a strain by selective breeding, just as one can by the same method stamp out weak qualities. Every broody period should be carefully recorded on the trap-nesting sheet. As a pullet goes broody, the fact should be recorded together with the date, and when she commences to lay again this detail should be scored to her. Then the owner will know at the end of the season by referring to the egg-recording sheets how many, if any, broody periods each bird has had and the extent of each rest. Were the owner to trust to guesswork, I am afraid he would often be misled, and without the aid of the trap-nest as his detective he would use in his breeding pen some hens given to excessive broodiness.

Are Buff Orpingtons Broody?—Supposing in mating up a pen of untrapped hens the owner should select 90 per cent. of birds with two and three broody periods to their credit in their first or pullet season of laying. The results would not be by any means good. If, on the other hand, he used in his best pens hens bearing no black mark against them for broodiness, this is going to help considerably in stamping broodiness out of the strain. The progeny will naturally follow the lead of their dams. As showing what can be done with Buff Orpingtons, I quote the case of the Harper Adams Laying Competition, 1913–15. In this two-year test one of the Buff Orpingtons owned by Mr. Jonathan Collinson, Lingart P.F., Barnacre, Garstang, laid 209 eggs in her pullet year and 205 in her second season. No broody period was recorded against this wonderful performer. It is Buff Orpingtons which so many poultry-keepers refuse point-blank to keep, because they say that they are so often broody.

Continuous Breeding Scores.—Spasmodic trap-nesting will do good, but it will not bring in the best results by way of increased egg-production. Having started correctly by trap-nesting, the poultry-keeper must continue his methods of recording and selection, and in a few seasons he will have maintained in his strain the strong points aimed at. Having selected for use in his breeding pens males bred from a heavy-laying mother and one that has not given trouble from broodiness or small eggs, I will admit that he will reap great benefit through the progeny bred. The result, however, will be greatly increased in the next generation and afterwards when the *selected* dam and granddam on both sides excelled in the points for which the breeder is striving for, whether size, colour or number of eggs, or all three qualities in one. Thus it will be seen that continuous selective breeding and trap-nesting strengthen a strain and maintain therein the merits aimed at.

Level Flocks of Layers.—At the end of the season, when the result of the trap-nesting is known, many breeders go wrong in using the highest-producing pullet to breed pullets for further laying. They neglect other birds with totals almost as high. When selecting from the trap-nested stock those females that are to go into the breeding pens, it is advisable to pick out the birds with totals above a certain respectable number of eggs. The best performers should be reserved chiefly for the purpose of producing breeding males to improve the strain and to increase the average yield. The object should be to breed *flocks* of even laying rather than a *few* of abnormal egg-producing qualities. If, then, we use the medium layers to the full extent as the breeding hens and reserve the few outstanding performers mainly to furnish us with high-class stud cockerels, we shall ensure even-laying flocks in the progeny.

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Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C. 2.

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FOR GARDEN, ORCHARD, WOODLAND
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Bees' Guarantested (Guaranteed & Tested) Roses

are famously fibrous rooted; tough as whip-cord; with a constitution like iron. These factors ensure success no matter where the Roses are planted.

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24 best and most popular roses for general purposes.

A splendid assortment. **15/6** Carriage paid.

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George Dickson (ht),deep cr.	10d.
G. C. Waud (ht),orange ver.	10d.
Gen. McArthur (ht), scarlet	10d.
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Mme. A. Chatenay (ht),sal.pk.	9d.
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Mme. Ed. Herriot, prawn red	10d.
Mme. Jules Grolez (ht),sil.rose	9d.
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Mme. Ravary (ht),orange yel.	9d.
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Rayon d'Or (ab), yellow	1/-
Richmond (ht), scarlet	10d.

Tea Roses

SELECTION "C."

12 most vigorous, hardy, and generally satisfactory.

Deliciously tea scented. **8/9** Carriage paid.

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Mme. Constant Soupert,yel.	1/-
Mme. Jules Gravereaux,yel.	11d.
Mme. Hoste, pale lemon	10d.
Miss A. de Rothschild,cit.yel.	10d.
Molly Sharman Crawford,w.	10d.
Mrs. Edward Mawley, pink	10d.
Mrs. Foley Hobbs,ivory wh.	10d.
Mrs. Myles Kennedy,cream	10d.
Souv. de Pierre Notting,apr.	10d.
W. R. Smith, blush white	10d.

Town Roses

SELECTION "E."

12 sorts proved suitable for growing in smoke.

Immensely successful. **7/9** Carriage paid.

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Mme. Ed. Herriot (per),red	10d.
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Hedge Roses

SELECTION "G-H."

12 vigorous and hardy sorts.

Both sets together. **9/-** Carriage paid.

Set "G" for High Hedge, 5/-

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Excelsa (W.), scarlet	11d.
Dorothy Perkins (W.), pink	11d.
Felicite-et-Perpetue, cream	11d.
Hiawatha (Poly.), crimson	11d.

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Common Blush (China),pink	8d.
F. H. Veitch (ht), scarlet	10d.
Lady Waterlow (ht),salmon	11d.
Gruss an Teplitz (ht), crim.	9d.
Trier (P.), creamy white	11d.
Zeph. Drouhin (hb),carmine	11d.

Tall Bedding Roses

SELECTION "J."

12 vigorous sorts, may be pegged down or grown natural.

Charming colouring. **7/9** Carriage paid.

Gen. McArthur (ht),crimson	10d.
Gruss an Teplitz (ht), crim.	9d.
Gus. Grunerwald (ht),carm	10d.
Hugh Dickson (hp),crimson	8d.
Lady Hilingdon (t),apri.-yel.	10d.
La Tosca (ht), silvery pink	10d.
Mme. A. Chatenay,sal.pink	9d.
Mme. M. Soupert (ht),yellow	10d.
Mrs. R. G. S. Crawford,pink	8d.
Pharisaer (ht), rosy white	10d.
Pce. C. de Rohan,dark crims.	8d.
Souv. de M. Zayas (ht), car.	9d.

Garden and Cutting

SELECTION "M."

12 free-flowering roses for garden and indoor decoration.

Abundance of bloom. **8/3** Carriage paid.

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Betty, coppery rose	10d.
Edu Meyer, red and yellow	10d.
Genl. McArthur,bright scar.	10d.
Gruss an Teplitz, crimson	9d.
Harry Kirk,deep sulphur yel.	10d.
Killarney, pink	10d.
Mme. Abel Chatenay,sal.pk.	9d.
Mme. Jules Grolez,bright rose	9d.
Mme. Ravary, pale orange	9d.
Rayon d'Or,deep orange cad.	1/-
Richmond, pure red scarlet	10d.

Sweet Briars

SELECTION "R."

6 choice and fragrant sorts, suitable for hedges, &c.

Colours exquisite. **4/3** Carriage paid.

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Lucy Bertram,rich crimson	10d.
Lady Penzance, soft copper	10d.
Meg Merriles, bright crim.	10d.
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Dwarf Bedding Roses

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12 perpetual, free-flowering sorts, of bushy habit.

Surprisingly effective. **8/6** Carriage paid.

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Ecarlate (ht), scarlet red	10d.
Earl of Warwick (ht),sal.rose	10d.
G. C. Waud (ht),orange ver.	10d.
Lady Pirrie (ht),apricot pink	10d.
Mme. Ed. Herriot, red	10d.
Molly S. Crawford (t),white	10d.
Mrs. A. Ward (ht),Indian yel.	10d.
Rayon d'Or (hb),orange cad.	1/-
Richmond (ht), scarlet	10d.

All Purposes Roses

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12 first-class sorts, suitable for general use.

Do well everywhere. **6/6** Carriage paid.

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Fisher Holmes (hp),cri.scar.	8d.
F. K. Druschki (hp), white	10d.
H. F. Richardson (ht),crim.	10d.
Hugh Dickson (hp),crimson	8d.
Lady Ashtown (hp),deep pk.	9d.
Lyons Rose (ht),shrimp pk.	10d.
Mme. A. Chatenay (ht),sal.pk.	9d.
Mme. Ed. Herriot, red	10d.
Mme. Ravary (ht),orange yel.	9d.
Mrs. J. Laing (hp),rose pink	8d.

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(Ex. strong transplanted bushy.) Doz. 100

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12 first-class new roses, nearly all gold medallists.

Exceptional value. **20/-** Carriage paid.

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H. V. Machin, bright crim.	1/-
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12 sorts which do very well in various aspects.

Hardy, vigorous. **9/6** Carriage paid.

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Aimee Vibert (cl.,n.),white	11d.
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Climbing C. Testout, pink	11d.
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Gerbe Rose (W.), pale pink	11d.
Gloire de Dijon (cl.,t),sal.yel.	11d.

Set "Q" for South or West, 5/-

Billard et Barre (cl.,t),gol.yel.	11d.
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Mme. Alfred Carrier (hn.),w.	11d.
Mme. J. Gravereaux,yellow	11d.
W. A. Richardson, orange	11d.
Zephirine Drouhin,carmine	11d.

Gold Medal Roses

SELECTION "L."

12 newer sorts, all gold medallists but two.

Creme de la creme. **9/-** Carriage paid.

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Dchs. of Wellington, yellow	1/-
George Dickson (ht),deep cri.	10d.
G. C. Waud (ht),orange ver.	10d.
Lady Pirrie (ht),coppery-sal.	10d.
Leslie Holland (ht),vermilion	10d.
Mabel Drew (ht), cream	10d.
Mme. E. Herriot (per.)pr.red	10d.
M. de Sinety (ht),gold bronze	1/-
Mrs. A. Carnegie (ht),white	10d.
Rayon d'Or (per.), golden	1/-
Willowmere (per.),coral pk.	10d.

Baby Ramblers

SELECTION "O."

12 roses of bushy habit, recommended for beds.

About 1ft. in height. **8/6** Carriage paid.

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Canarienvogel,yel. & orange	10d.
Ellen Poulsen, deep rose	10d.
Erna Teschendorf, crimson	10d.
E. Lamesch, orange pink	10d.
Jessie, rose crimson	10d.
Katherine Zeimet,pure wh.	10d.
King Edward VII.,rosycar.	10d.
Leonie Lamesch,copperyred	10d.
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Mrs. W. H. Cutbush,cher.pk.	10d.
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Climbers, Ramblers

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6 roses suitable for trellis, pillars, arches, pergolas, &c.

All very vigorous. **4/9** Carriage paid.

Alberic Barbier (W.),yellow	11d.
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Dorothy Perkins (W.), pink	11d.
Excelsa (W), bril. scarlet	11d.
Hiawatha (cl.,P.), crim.wh.	11d.

Exhibition Roses

SELECTION "B."

24 specially-selected varieties, superb form, grand colour.

Assured prize winners. **15/6** Carriage paid.

Avoca (ht). crimson scarlet	10d.
Bessie Brown (ht),creamy w.	10d.
British Queen (ht), white	10d.
Chas. Lefebvre (hp),crimson	8d.
Coronation (hp), flesh pink	10d.
Dean Hole (ht), silvery rose	10d.
Earl of Gosford (ht),dk.crim.	10d.
Ethel Malcolm (ht),ivory w.	10d.
Gl. de C. Guimoisseau (hp),ver.	8d.
George Dickson (ht),vel.crim.	10d.
Hugh Dickson (hp), crimson	8d.
J. B. Clarke (ht), crimson	10d.
Jonkheer J. L. Mock (ht),car.	10d.
Leslie Holland (ht),scar.cri.	10d.
Mabel Drew (ht),canary yel.	10d.
Lyons Rose (ht),shrimp pink	10d.
Mrs. C. West (ht), shell pink	10d.
Mildred Grant (ht),tinted w.	10d.
Mrs. Amy Hammond (ht),ap.	10d.
Mrs. Andrew Carnegie (ht),w.	10d.
Mrs. John Laing (hp), rosypk.	8d.
Mrs. J. H. Welch (ht), pink	10d.
Mrs. Roosevelt (ht),pale flesh	10d.
Ulrich Brunner (hp),cher.red	8d.

Fragrant Roses

SELECTION "D."

12 chosen chiefly for their abundant delicious scent.

Colouring gorgeous. **7/9** Carriage paid.

Alfred Colomb (hp), red	8d.
Dupuy Jamain (hp), cerise	8d.
Earl of Gosford (ht),crimson	10d.
George Dickson (ht),vel.cri.	10d.
General Jacqueminot (hp),cr.	8d.
Gen. McArthur (ht),crimson	10d.
Juliet (hb),old gold and red	10d.
La France (ht), rose	9d.
Lady Alice Stanley (ht),pink	10d.
Mme. Ed. Herriot (per),red	10d.
Mrs. John Laing (hp),rosy pk.	8d.
Ulrich Brunner (hp),cher.red	8d.

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SELECTION "F."

12 charmingly coloured and daintily formed in bud.

Last well when cut. **8/6** Carriage paid.

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Lady Hillingdon (t),apri.yel	10d.
Lady Roberts (t),reddish apri.	10d.
Liberty (t), velvety crimson	9d.
Mme. A. Chatenay (ht),sal.pk.	9d.
Mme. Jean Dupuy (ht),rose	10d.
Melody (ht), saffron yellow	1/-
Mrs. A. Ward (ht), yellow	10d.
Mrs. G. Shawyer (ht), pink	10d.
Mrs. H. Stevens (t), white	10d.
Richmond (ht), scarlet	10d.
Sunburst (ht),cadmium yel.	10d.

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"Falstaff" Selection of Cottage Garden Fruits

All best sorts. Strong trees. **18/6** Exceptional value. Carriage paid.

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1 Lord Suffield Apple, cooker.
1 James Grieve Apple, dessert.
1 Cox's Orange Pippin, dessert.
1 Louise Bonne Pear, cook or eat.
1 The Czar Plum, cooker or dessert.
1 Victoria Plum, cooker or dessert.
1 Morello Cherry, cooker.
1 Loganberry, for tarts or jam.
4 Boskoop Giant Black Currant.
4 Whinham's Industry Gooseberry.
12 Superlative Raspberry, the best.

All the above-named fruits are very free-bearing, hardy, thrifty sorts.

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Carefully selected with object of producing continuous display. **6/-** See catalogue for plan showing how to plant. Carriage paid.

1 Dropmore Alkanet, 4ft., gentian blue.
2 Colwall Michaelmas Daisy, 4ft., lilac.
3 Teersteeg Marguerite, 2ft., snow white.
4 Hybrid Larkspur, 5ft., violet, purple.
5 Ballard Michaelmas Daisy, 3ft., mauve.
6 False Dragon's-head, 5ft., carmine.
7 Hybrid Larkspur, 4ft., sky blue.
8 St. Egwin Michaelmas Daisy, 3ft., pink.
9 Red Elecampane, 5ft., crimson, bronze.
10 Scarlet Campion, 3ft., geranium red.
11 Blue Lupin, 4ft., magnificent blue.
12 White Peach-leaved Bellflower, 2ft.
13 Oriental Poppy, 3ft., salmon pink.
14 White Lupin, 4ft., purest white.
15 Gauze Flower, Gypsophila, 3ft., white.
16 Tree Lupin, 4ft., yellow, fragrant.
17 Siberian Iris, 3ft., rich blue.
18 Fire Flower or Pyrethrum, 1½ft.
19 Showy Fleabane, 1½ft., mauve.
20 Hybrid Columbine, 2ft., var. colours.
21 Pink Knotweed, 6in., rosy pink.
22 Mrs. Bradshaw's Avens, 2ft., scarlet.
23 Mussin's Catmint, 1½ft., lavender.
24 Blue Peach-leaved Bellflower, 2ft.
25 Blue Perennial Flax, 1½ft.
26 Golden Marguerite, 2ft., rich yellow.
27 Beesian Mimulus, 9in., scarlet, gold.
28 Jacob's Ladder, 1ft., pale blue.
29 Gentian Speedwell, 1ft., blue.
30 Double Pyrethrum, 1½ft., var. colours.

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Double Flowered Gorse, golden yellow.
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Spiræa, Anthony Waterer, red.
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Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
Piptanthus, new, from China.
Giant Mock Orange, white.
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THE GARDEN.

No. 2393.—Vol. LXXXI.] [September 29, 1917.

NOTES OF THE WEEK

TWO grave mistakes are frequently made in cottage and allotment gardens where Potatoes are being lifted. In order to protect them from light the decaying haulm is often laid over them for a time. Nothing could be more conducive to the spread of the Potato disease fungus than this, except the other mistake. The spores may so easily fall upon the tubers and set up the attack, which may only be discovered when the tubers are rotted. Better keep the haulm and the lifted tubers quite separate and burn the former. The second mistake is in leaving diseased tubers on the ground or throwing them upon the rubbish heap. There is little doubt that slightly diseased tubers so left or planted next season are likely to form the starting-place of the disease another year. Diseased tubers may, if first boiled, be fed to pigs or fowls; otherwise they should be collected and burned.

Planting Fruit Trees.—In his article on pages 406 and 407 Mr. E. A. Bunyard does well to point out the evil of deep planting, especially in wet and heavy soils. This is a point well known to practical fruit-growers, but a veritable pitfall to the amateur. Our correspondent advances a new theory, viz., "the higher out of the ground the tree is planted the less the growth and more the fruit." It may seem a novel theory, but we are convinced there is a great deal in it, and it is well to have such advice now that we are at last waking up to the real importance of fruit-growing in this country.

Potato Midlothian Early.—No doubt this has been one of the best of early Potatoes this season, either in the open or in frames. Not only does it crop freely, but the quality has been good. At Aldenham, where Potatoes in frames are much grown, Midlothian Early was the favourite, with many points in its favour.

Trial of Late Peas at Wisley, 1917.—The following awards of merit have been made to late Peas by the Council of the Royal Horticultural Society after trial at Wisley: Latest of All, sent by Messrs. Barr; Longstander, sent by Messrs. Sutton and Messrs. Barr; Rearguard, sent by Messrs. Hurst.

Rose Mrs. G. Norwood.—As an autumn-flowering Rose this is an ideal variety, growing sturdily, with ample foliage which greatly emphasises the rosy pink coloured blooms. In fragrance, too, this Rose is all that could be desired, which enhances its value considerably.

Restrictions on the Importation of Pines and Ribes to Canada.—The Board of Agriculture and Fisheries desire to draw the attention of English [illegible] and other persons to the [illegible] of the Dominion of Canada, which prohibit the importation of all five leaved species of the genus Pinus and also all species and varieties of Currants and Gooseberries into Canada. The importation of all Pines and Ribes (Currants and Gooseberries) into the United States of America has already been prohibited.

Effect of Last Winter's Frost at Kew.—The season is now sufficiently advanced to summarise the damage done to the trees and shrubs in the pleasure grounds. Comparatively speaking, it is very little, plants in wind-swept areas and cold corners being the worst. Subjects on the borderland of hardiness we expect to suffer little or much during most winters, and these have been hit rather worse than usual. One of the most surprising results is the damage to the common Gorse, Ulex europæa, though in numerous instances the plants have nearly, if not quite, made good, the young growths from the older wood hiding a good deal of that killed. The Cistuses, Ceanothuses, Escallonias, Myrtus, and numerous South European plants suffered the most. Deaths are relatively very few, young shoots having pushed out from the older wood or grown up from the base.

Preserving Fruit in Cold Water.—Referring to your interesting article, "Preserving Fruit in Cold Water" (August 25), it would be very interesting to know whether any of your readers have tried and succeeded with this method. Our water is very limy; would that cause any trouble? My own efforts are doubtful (a small air bubble always forming), but I am hoping for the best.—J. N.

Potato Sets Chilled.—Instances have been brought to our notice this season in which certain seed Potatoes behaved very badly, especially early in the season. The opinion has been expressed by experienced growers that the sets had been chilled; that is to say, they had been as nearly frozen as possible without being actually frozen. In two instances we are able to trace the poor growth to the cold places in which the seed tubers had been put. This coincides with the experience of no less an authority than Mr. W. Cuthbertson, who explains in a contemporary that his slowest tubers to start growth last spring were some pedigree seedlings which should have been the strongest of all. He found that the boxes containing them had been kept all through the winter in a store next to an outside north wall, where they would several times be on the verge of freezing. This experience, which is confirmed by that of other large growers, should be borne in mind when the time comes round for again sprouting the seed tubers.

Ipomœa Learii.—This pretty climbing plant is making a glorious display at Kew, where its festoons of intensely bright blue flowers are suspended from the rafters of the Temperate House. It is an evergreen climber of rapid growth, native of Tropical America. Although it has been in cultivation in this country for the best part of a century, it is comparatively little known, which is very surprising. It continues to flower from July till October.

The Common Hornbeam.—Carpinus Betulus, the common Hornbeam, is at the present time a conspicuous tree by reason of its yellow-tinted foliage and its clusters of fruiting catkins and three-lobed bracts with which it is now so freely furnished. Apart from the Hornbeam being one of our handsomest trees, it is also a most useful hedge plant. There are fine Hornbeam hedges to be seen in many of our old-established nurseries, such as at Messrs. Cheal and Sons', Crawley, which is described in the pages of this issue. The hedges were originally planted for shelter. When closely clipped the Hornbeam, like the Beech, retains its brown dead leaves until the new shoots push forth in the spring. The Hornbeam hedge is attractive in winter and affords useful protection. Although the hedge illustrated on this page is about 15 feet in height, it is less than 2 feet through. It forms a perfect screen in the minimum amount of

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

COLOUR DESCRIPTION.

IN this discussion Mr. Warner is quite right in his desire to establish a fuller and more accurate nomenclature of colour, but quite wrong in his contention about the use of "warm" and "cold." He confuses the point of how people might speak with how they actually do speak in current language. Artists, people who photograph and people educated to a semi-technical use of words, are in an immense minority, and for one who understands the use of "warm" and "cold" applied to colour there are fifty who do not, but who know quite well what is meant by red purple or blue purple. Mr. Warner is wrong also in his assertion that "red" conveys no definite sense in this connection. "Red," when we say "red purple," means here unqualified red, the absolute red, say of the spectrum. It is true that even in the spectrum red merges on either side into orange or violet; nevertheless, there is a middle red, and all the world knows what is meant by "red" here. Or, to put it in a different way, we mean *abstract* red, redness, and modifications of the colour do not here come into the question. Moreover, this small quarrel comes to nothing, for, after all, redness is warmth and blueness is coldness in colour, and the only real question is whether we had better use words in general or in restricted use. As to the whole subject, the difficulty is that with our present small colour-vocabulary we cannot get much further. To correct the crude and misleading use of "blue" Mr. Warner can only offer some three or four epithets, lilac, mauve, violet, &c. Well, there are perhaps 100 lilacs all distinct to the eye of a professional in a dye-laboratory, and as many mauves and violets. In the last thirty years I have raised many hundreds of thousands of yellow Daffodils, and am sure that *no two* are of precisely the same colour. Where, then, am I to find a word to describe every several yellow? Again, colour is a matter of surface—the Greeks knew this 2,000 years ago and had only one and the same word for both "skin" and "colour." So that if the yellow of each one of these Daffodils was transferred to a flower of different texture, it would appear different and would demand a fresh name. Therefore you would soon require thousands of names for yellow alone. This is the trouble with all colour-charts, which can never be more than approximate guides, a paper-surface conveying to the eye an impression different to what every other surface conveys. Cut off a bit of paper labelled "gentian blue" and hold it against a Gentian, and see where you are. The truth is that at present we have so few colour-adjectives that we can only describe a colour by saying it is like some other coloured object—like an Orange, a Mallow (mauve), Lilac blossom or what not. It is impossible to predict whether the English language will, in the course of gradual development, elaborate a full colour-terminology. The Greek language might have done so if it had lived in its purity and in artistic use until now, and would have been invaluable in its delicate flexibility. If this does not come by natural evolution it will not come at all, for all experience teaches that you cannot arbitrarily enforce changes or additions. There is nothing more stubborn than current speech, and this is why the public at large will never adopt Mr. Warner's "warm" and "cold." It is not their way of speaking, and that ends it. As to the rough and undiscriminating use of "blue" in botanical books, it must be remembered that to botanists colour is not a determining "character" of a flower, and is often entirely omitted in their descriptions.—G. H. ENGLEHEART.

LAURUS NOBILIS.

I HAVE just received the issue of June 2 of THE GARDEN, and I notice there an article by Miss Gertrude Jekyll on the leaves of Rhubarb and notes on the use in French cookery of the leaves of Laurus nobilis and Prunus Laurocerasus. Both are used, but in small quantities (owing to the quantity of prussic acid which they contain, than which I know of only two plants which contain more). However, the ways of using them are different. The leaves of Prunus Laurocerasus—which amateur gardeners commonly call "Cherry Laurel," and cooks "Cream Laurel"—serve to flavour milk foods (rice, tapioca, millet, vermicelli and flour boiled with milk) and custards. The leaves of Laurus nobilis—which amateur gardeners commonly call Apollo's Laurel; the makers of pickles, "Ham Laurel"; and cooks, "Sauce Laurel"—are used in the kitchen to increase the taste of sauces and stews and to flavour grilled fish (mullet, mackerel, salmon and shad steaks), and to improve the seasoning of fish soup (mixed with the water and wine in which the fish has been boiled). The pickle makers, pork butchers and farmers, who are an important body in the country, employ its leaves both in the water in which hams are boiled and in the mixture of aromatic herbs, the burning of which serves to smoke and dry them. I forgot to say that the leaves of Prunus Laurocerasus communicate to milk foods—in the preparation of which they are used—a taste something between that of smaller and bitter Almonds, but inferior. If one cares to philosophise a little, one finds in the confusion of popular terms in Miss Jekyll's article and in the letter beneath it a proof of the necessity of retaining Latin as the language of science and to facilitate understanding between scientists. The confusion is worse in English than in French, as I see by Nicholson's Dictionary (French translation by Mottet) that the name common Laurel is applied to Laurus nobilis and to Cerasus Laurocerasus. We at least follow our word "Laurier" with a qualification. It is true that we say as well Laurier-tin for Viburnum Tinus.—EMILE THIBAULT.

TOMATO-GROWING IN A LOFTY CONSERVATORY.

AS we planted a great part of our conservatory this year with Tomatoes, I had my doubts of much success owing to the height of roof, &c., and the liability of the plants to become drawn. However, we had some boxes made, 3 feet by 8 inches by 10 inches, and planted the Tomatoes—Dickson's Liberty, of Hawlmark fame—and the results are very good. Some bunches have sixteen Tomatoes, but the average is nine, ten and twelve to the bunch, weighing eight to the pound, a size which is of more use here than the larger ones. The soil I used was loam, old mortar rubbish, plenty of wood-ashes, and a little soot. A little sulphate of ammonia was given once a week, and liquid manure, of which we have plenty here, and use on many other vegetable crops, also for Roses on walls and in beds. We find it keeps them in good health. The above is written with the object of helping any in doubt as to trying Tomatoes in lofty houses, and so helping the food supply.—J. MCCLEAN, *Ardtara*.

ANOTHER WINDFALL CHUTNEY.

I AM afraid that I shall be rather "out of my depth" in attempting to describe the above, which my wife says I ought to hand on to readers, now that economy is so necessary. However, I have to thank "Anne Amateur" for letting me in for this, as it was when my wife saw her recipe for Apple and Marrow conserve that she told me to send it on to you. I have put it off on the score of my inability to write it, but will now attempt to give the method, and must, being a "mere man," be excused if I fail to make everything plain. The beauty of this chutney is that it enables one to utilise what would otherwise be wasted. Its components consist of windfall Apples, thick-necked Onions, and either green or ripe Tomatoes. Two pounds of Apples, when peeled and cored; two pounds of Tomatoes, peeled and sliced; one and a half pounds of Onions, sliced; eight ounces of stoned raisins, eight ounces of brown sugar or six ounces of treacle, one pint of malt vinegar, one ounce of mixed pickling spice and one teaspoonful of salt. Mode.—Bruise the ginger and tie with the spices in a piece of muslin, to remove when finished. Put all into a stew jar or enamelled pan and simmer gently for two hours at least. Place into pickle bottles or jars, which need not necessarily be of the vacuum type, and store away until required. This makes an excellent adjunct to cold meat at any time of the year. Being once more upon safe ground, I can testify to the excellence of this chutney. As my youngster says: "It's Top-Hole!"—CLARENCE PONTING, *Great Missenden*.

THE CHINESE MARGUERITE ASTERS.

IN September flowers for cutting in the mixed borders are scarce, the Phloxes are past their best, and little remains for house decoration. The above single Asters supply a "cut and come again" choice of lovely, lasting flowers on long stalks. The growth is most elegant and the colours are pure selfs, ranging through white, blush, pale rose, deep rose (almost carmine), pale slate blue, mauve, deep blue, and violet. A large bed in my private garden, planted in masses of the same colour, is most beautiful and attracts much appreciation. Those who have not grown these Asters should make a note to secure seed next spring. It may be sown in the open, but I prefer to sow it in gentle heat, to transplant in a cold frame, and lift the plants with a ball to their final positions. They are offered in seven colours, or separately. In addition to their other good qualities they endure winds and rain well, and again make one further call on our admiration by attracting the autumnal brood of the lovely Vanessa (Tortoise-shell) group of butterflies in great number; also the Brimstone (Gonepteryx).—GEORGE BUNYARD, *Maidstone*.

ROSE MRS. LITTLETON DEWHURST.

THE Rambler Rose referred to in your "Notes of the Week" should be Mrs. Littleton Dewhurst. It is a white sport of Lady Gay and originated in the garden of the lady whose name it bears and who kindly gave it to us. It was mentioned under its correct name in your pages recently as being superior to White Dorothy. The note on Peacock butterflies is very interesting, as we have heard from several quarters that this species is dying out in Britain.—J. R. PEARSON AND SONS.

IF your readers try to find a Rose under the name Mrs. Lyttelton Dewar they will be disappointed. The correct name is Mrs. Littleton Dewhurst. It is a fine rambler and exceedingly pretty with its Carnation-like tinting on the older flowers: but if anyone wants the best white rambler they should plant Sander's White. It is of the true Wichuraiana type. Pemberton's White is very good, but is more of the multiflora type, and would be an excellent contrast to the old Crimson Rambler. —WALTER EASLEA, *Eastwood, Leigh-on-Sea*.

IRIS ROSENBACHIANA.

IT is now a good many years since I first grew Iris Rosenbachiana and fell a victim to its fascinations. But my experience, like that of several others in this district, was that it could not be relied upon as a flower to grow without some protection. It appears too early and suffers greatly from late frosts, so much so, in fact, that it will not survive for more than a few years. It will, as Mr. W. R. Dykes says, succeed better in a cold frame than in the open border. Failing that, a bell-glass or hand-light will answer the purpose. It is a variable Iris and some forms are much finer than others.—S. ARNOTT, *Sunnymead, Maxwelltown, Kirkcudbrightshire.*

A COLLECTED LILY FROM CHINA.

I WAS much interested by the article with illustration in your issue of September 1 of a new Lily, auratum × speciosum. While I can only claim to be an amateur cultivator, I have this year flowered a Lily the seed of which was sent to me from Eastern Szechwan, China, in 1913. The seeds were sown in an open border in 1914, and the resultant plants have been in the same situation ever since, so that, having come through last winter, they are evidently quite hardy. As the sender of the seed did not give a name for the Lily, I shall be glad if you can give me any help in fixing its variety, as the flower does not enable me to do so myself. The flower is of a long trumpet shape and did not open widely after the manner of auratum. The inside of the flower is white, with greenish yellow colour down the centre of the petals. The outside is of a greenish colour overlaid with chocolate brown. I enclose photographs, taken, A on August 25 and B on August 27—[One of which we reproduce.—ED.]—as I was desirous of sending a pictorial record of the flower to my friend in China. At the time I did not think of writing to you about the name of the variety, so I took no measurements. I understand the Lily grows wild in China.—H. D. WALKDEN.

[We have submitted the photographs and note to Mr. A. Grove, who replies: "I know the plant figured in the photographs well, and grow it myself. It is one of the many intermediate forms between regale and Sargentiæ and sulphureum which collectors are constantly coming across in Western China. It is not a particularly beautiful plant because of the absence of colour on the trumpet and the predominance of green about the white of the flower. The Lily is not of any great horticultural interest, because there are so many somewhat similar Lilies superior to it from every point of view."—ED.]

AN UNNAMED LILY.

THE NAME "FORMAL GARDEN."

IT was not until I arrived at the concluding remarks in the letter from "Somerset" in your issue of September 1 that I grasped the fact that he was writing in a jocular, if not a satirical vein. It is, of course, impossible to take him seriously when he speaks of Nature simulating man's work. Nature never imitates, simulates, or mimics man or his handiwork. Frequently man tries to pay Nature that compliment, and what an awful mess he often makes of it! Perhaps the most ghastly example of all his failures is in the very thing quoted by "Somerset"—the thing he makes and calls "moraine." And when he has done all he can, and achieved something "wild," truly delightful and "Robinsonian," it is a little galling to hear, "Ah, yes, very beautiful; but I should like you to come to a spot I know in Surrey when the Bluebells are in flower."

By what process of reasoning he reads into my remarks the restricted use of the word "formal" he attributes to me I must confess I fail to conceive. I have not a copy of THE GARDEN by me at the moment containing my plea for the retention of a word in gardening vocabulary, but I am convinced that the following, or something very much like it, will be found therein: "Those portions of the garden that have for one reason or another to conform to regular lines, methodical arrangement, and ordered severity of design." This should be explicit enough to include Versailles, the "Dutch" Garden at Hampton Court or Kensington Palace, the garden front at Holland House, the Pond Garden at Easton Lodge, and hundreds of Rose gardens throughout the country. I merely wished to suggest that sometimes the architectural lines of a house make it imperative that the garden in its immediate vicinity should be developed on more or less geometrical lines. I claimed, and still do so, that such developments have some right to a name whereby they may be distinguished from the "natural," "wild," "rock" or any other portion of the garden into which the element of geometrical design does not enter. "Formal" answers this purpose and conveys to most of us what it is meant to convey. "Garden" or "flower garden" does not do this. Both terms can be used to include all and every development of ornamental gardening; hence my protest against abolishing its use.

Mr. Robinson has enjoyed "many a laugh" at the young lady who said, "Why, you have a formal garden!" There would have been greater humour in the remark if, knowing all Mr. Robinson has written and done, she had said (as he would have it), "Why, you have a *garden!*" That anyone could be surprised at Mr. Robinson having a garden would be funny indeed!

I purposely avoided raising the question of whether formal gardens were good or bad, desirable or otherwise. I should require the whole space of THE GARDEN for one week at least to give all my reasons for and against such gardens as I have mentioned, and another to do the same with wild gardening. My point is that they exist, and therefore require some distinctive name whereby they may be separated from what "Somerset" calls a "Robinsonian" garden. I thank him for that word, although it is not new to me. I have often used it myself when I have wished to express some particularly delightful effect so dear to the heart of "Somerset," to Mr. Robinson, Mr. Engleheart, and, last, to myself. Some day I hope the word may become as popular as the epithet "formal." I hope it will, if only for the implied compliment to the work of a great man. The greatest tribute I can possibly pay to Mr. Robinson is to say that it is a term I should never misunderstand, and that I believe it would be sufficient for a great majority of the gardening public. For some reason, however, "Somerset" appears to express doubts of my ability to understand the meaning of "wild" gardening as well as formal. I do not understand by the term a dumping-ground for the garden overflow; nor, I think, could such an interpretation be placed upon anything I have ever said. I need not go outside that very tenth edition of "The English Flower Garden" he quotes to illustrate, or rather let Mr. Robinson illustrate, what I do understand by it. On pages 98, 160 and 161 he will find the real wild garden pictured. Because I love the wild garden I do not forget that it is but an interlude between the *garden* and the *wild*. There are many gardens, "symmetrical and balanced in design," that appeal to me with equal force, though possibly for different reasons. I deprecate as strongly as anyone can the thrusting of vast ornate, geometrical garden schemes out into the beauty of an English landscape, but I feel just as strongly that the "wild" is not the complete garden.

Should "Somerset" be His Grace the Duke, whose signature he has used, I am sure he will forgive any implied familiarity on my part in the above.—GEORGE DILLISTONE.

BUSH PLUMS.

SOME five years ago I planted in very stiff soil several varieties of choice Plums in bush form with a view to testing their capabilities to give full crops within a limited space. I am much pleased with the result, and shall hope to extend the method. Certainly I can recommend the plan to those with limited space. The main point is during the summer to closely pinch the current season's shoots and prune hard during the autumn, and in this way induce the trees to make fruiting spurs close home, as it were. The varieties were Count Althann's Gage, Denniston's Superb, Early Transparent Gage, Jefferson's, Oullin's Golden Gage, Kirke's, and Late Transparent Gage.—S. P.

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GATHERING FRUIT

THE few notes under this heading are not intended for the fruit-grower or professional gardener, but for the amateur only.

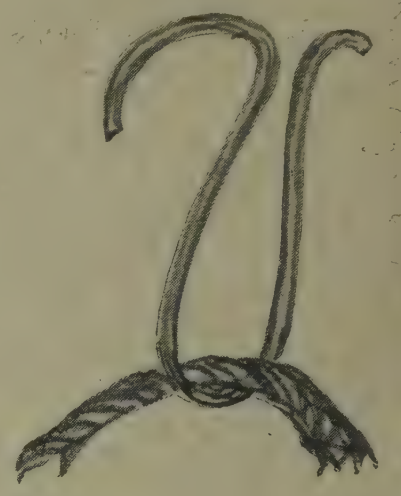
When to Gather Fruit.—My own practice with early eating Apples is not to gather them at all, or, at any rate, only the last of the crop. Early Apples are always best when eaten fresh from the tree; if they are kept indoors for even a week they lose a great deal of their flavour or become soft. By leaving them to fall naturally, one gets them in the proper order of ripening. Of course, if the crop is a heavy one it must be gathered, or there will be a great deal of waste. However, let the fruit hang as long as it will, and then get rid of it quickly.

Pears.—I can only think of two Pears which ripen on the tree; these are Doyenné d'Eté (a delicious little thing and very early) and the old Jargonelle. All other Pears must be gathered before they are ripe and be ripened indoors, a cool, dark place being the best. To find when the fruit is ready for gathering, take a fruit lightly in the hand and turn it upwards. If ready, the stalk will part quite easily; if not ready, the stalk will break or refuse to give way at all without some violence being applied. To test when a Pear is ripe for eating, give a gentle press with the thumb quite near the stalk. This is the point where the fruit ripens first, and a gentle pinch there will do no harm; whereas a similar pinch applied to any other part of the fruit would almost certainly cause decay to set in.

Plums.—In case of very heavy crops of this fruit it is wise to thin them while still green, if one can possibly find time to do it. If left to ripen, the whole crop may be almost useless. This is especially the case with Victoria, which is quite a good Plum when well grown, but when trees are roped with fruit, as they sometimes are, the Plums will be quite worthless, even for jam. The thinnings of Plums may be used for cooking any time after the stones are formed, so all the thinnings need not be wasted. In gathering the crop it is not wise to get all from a tree at one time, for Plums ripen irregularly. By making several pickings one gets all the crop in the best condition. Plums, Damsons, &c., must be picked quite dry if to be used for jam, but if intended for bottling it does not matter about being wet, for they have to be washed before putting them into the bottles. Plums intended for dessert should always be gathered by the stalk so as to preserve the "bloom," but when to be used for cooking it saves time to pull them from the stalk.

THE STEP-LADDER SPECIALLY MADE FOR FRUIT PICKING.

In gathering fruit from trees of any height a pair of steps or a ladder will be a necessity. A great deal can be done with a pair of high steps, but for anyone inclined to giddiness the top step is not a very comfortable "stance," to borrow a golfing expression. A very useful hybrid affair between steps and ladder has been made. The two parts are hinged together, and when closed can be easily shouldered like an ordinary ladder. The sides being set out somewhat at the bottom gives the ladder a very fair amount of stability, and as it will stand quite independently of any support from the tree, it may be used in getting fruit from trees that would not bear the weight of an ordinary ladder. In the case of tall standard trees a long ladder will be a necessity. There is some art in placing a ladder properly. First, work it carefully among the smaller branches so as to cause as little damage as possible to the tree or its fruit. Secondly, if the tree be rather weak, set the ladder as nearly upright as possible, but be careful when descending, or the spring of the branches may send you and the ladder backwards, with unhappy results. Thirdly, and most important of all, always place your ladder facing inwards towards the centre of the tree. Never trust the outside branches, for if they should give way you may come a nasty cropper. If the ladder be set towards the centre of the tree it will never go to ground, even if it should give way a little. A basket with a hook fastened to the handle is a great convenience in gathering fruit. The usual thing is a natural hook of stick fastened with a bit of string, but for a small basket one made of thick wire is neater and handier. This year I found, quite by accident, a particularly handy form of hook for the basket. Here is a rough sketch of same. It will be noticed that the wider bend is to hang on the branch of the tree or rung of the ladder; the narrower one is for the handle of the basket. This being brought close to the shank of the larger hook prevents it from slipping off the handle of the basket, but allows it to be detached immediately. I have not taken out a patent, but make a free gift of the "notion" to any reader of THE GARDEN who may care to try it!



A HANDY FORM OF BASKET HOOK.

J. DUNCAN PEARSON.

The Nurseries, Lowdham, Notts.

THE CULTURE OF FRUIT TREES

We are able to grow in this country some of the best fruit in the world, and there is no reason why we should be so dependent on imported supplies. For those who are seeking guidance on this subject we now publish the first of a series of articles specially written to meet their needs.

AS in the autumnal months the gardener's fancy lightly turns to thoughts of fruit trees, a few wandering reflections may not perhaps be now amiss. The kitchen garden needs no apologetic introduction in these days, what time the majestic Orchid is hiding in seclusion and trying to convince us that it really requires but little attention. We are all gardeners nowadays, and though some of us perhaps shone more particularly on the moraine in former days, we do not now disdain the more practical vegetable and fruit quarters. If, however, a little of the rock garden spirit—that striving to find the right conditions for the difficult subject—can be brought to bear on our fruit trees, something will have been achieved.

A wise old Frenchman, Legendre, finishes his little book on fruits with the following lines: "The advice which I esteem the principal and most important of all is that one cannot have fine trees without loving them. Neither goodness of soil, nor rich manure, nor favourable situations alone will make them thrive, but it is the gardener's affection which makes them strong and vigorous." Let this be our text.

Soil and Aspects.—There can be few soils in this country where fruit trees of some sort cannot be grown. On such different formations as the hot gravels of the Thames Valley, cold clays of Oxfordshire, the loams on the chalk of the South Downs, and the rich loams of the Greensands, fruit trees can be found thriving. If I had to choose the two most indispensable requirements, I should say water and lime. It may be considered that the first can be taken for granted, but I feel convinced that the all importance of an adequate water supply for fruit trees is greatly neglected. It is precisely because it is taken for granted that it is so often lacking, and many chlorotic and unhealthy trees are, I believe, suffering more from lack of water than anything else. In the classical experiments at Woburn the effect of peat mixed with the soil had a remarkable effect upon the growth, even in the rather cold clay soil of the station. Fortunately, every garden can provide the humus, which is so valuable as a water retainer, by the rotting of all vegetable refuse, weeds, lawn mowings, leaves, &c. This can be rotted in a pit, and after a year incorporated in the soil. In a garden which has been manured for many years there is probably a sufficiency of humus, and too much would result in a rank growth in a freshly planted tree. The lack of humus can be easily seen by the gritty, crumbling nature of the soil and its pale colour. In this case the vegetable matter should be omitted, but in any gravelly or sandy soil a liberal dressing should be dug in the top spit before planting. For wall trees it must be remembered that bricks are great water absorbers, and for these a liberal allowance should be given. The scrubby Peaches often seen on walls are more water starved than anything, and are an invitation to the red spider seeking whom it may devour. Sufficient humus should therefore be given to compete successfully with the all-absorbing bricks. The question of trenching ground before planting has caused much ink to flow in past times, but I consider this quite unnecessary in the great majority of soils. The essence of garden trees is that the roots should

be kept on the surface where they can be readily fed, and no downward encouragements are needed, on the contrary. The same may be said for the old habit of putting a large stone underneath the tree. Nowadays all trees save standards are worked on layered or cutting stocks, and the tap-root, so dreaded of old, is not a feature of them as of the older seedling stocks. Lime should always be added when fruit is planted, and even on the soils on the chalk where they show a whitish colour, apparently due to lime; it may often be that there is really none in the surface spit, the white appearance being due to silica, the chalk having long since been utilised or washed out.

In any case, the addition of lime to a soil in superfluity will do no harm to the trees, and its value at this time in helping to release the stores of potash in the soil needs no emphasis.

Aspects.—If fruit trees were able to express their desires audibly, we should probably find them saying with Goethe: "More light, more light!" for our cardinal error is, I think, too close planting. While many fruits will support a considerable amount of shade, it is not that they prefer it, and fruit farmers are now bringing their Gooseberries from the shade of standard trees into the open, with greatly improved results. We are a fresh air nation; let us see that our trees have their share. This said, what else can we say as to aspects? It may still perhaps be advisable to repeat that late ripening fruits require the best and sunniest positions; early kinds, coming as they do in warmer days, will do fairly well in less favoured spots. The north wall, consecrated by custom to Morello Cherries, will also produce the earlier Pears and Plums quite well; no wall, however short or ill-favoured, should be exempted from "doing its bit." Two-tiered espaliers of Pears can fill up a low greenhouse wall which now absorbs the sun to no one's benefit but its own. Even the sacred spaces under the drawing-room window would be as beautifully occupied by a Pear as by the more general Pyrus japonica. Sun and air are therefore the governing words in this connection, and a row of cordon trees with their well ripened and formed fruits will serve as a text for reflective musings.

Planting.—Around this subject lie the ashes of many controversies, and it is one which I think causes undue fears in the minds of the beginner. "Please send a man to plant" is a request which the nurseryman often receives, it being thought that, this delicate operation being once achieved, all will be well. I think, however, the dangers and difficulties are greatly exaggerated. In England we are told to "lay out the fibres carefully, taking care to preserve all possible"; in America Mr. Stringfellow is sharpening his roots to a spear-like point so that the trees can be thrust in the soil and the spade left at home. In the neighbourhood of Woburn dull sounds are heard which some take for the distant guns in Flanders, while the initiated know that it is only the sign of the arrival of the planting season. And yet all the trees thrive! I must confess myself a slap-dash planter. Fibres are of value only as an indication that the tree has grown in a good soil and has been well nourished; fresh ones must be formed, and as these come from only fairly stout roots, the laying out of fibres when planting is but in the nature of a carefully conducted funeral. If the roots are awkward and long, I cut off the ends to save making so large a hole; but otherwise in they go, fibres and all, and are well trodden down at once. If the ground is very wet, the treading can be left till later, but it must be well done, and Woburn has shown us at least that we cannot do harm if our feet are a trifle heavy. The right height to plant is easily determined by the earth mark on the tree showing its height in the nursery; but I am convinced that it is better to err on the side of shallow planting than of deep. Roots will stand exposure without danger, but the above-ground bark will not endure interment.

If a theory may be advanced, I venture to think that the higher out of the ground the tree is planted the less the growth and more the fruit; such, at least, is my experience. It is obviously useless to grow trees on dwarfing stocks and then plant them so deep that the scion takes root itself, as many Apples and Pears do; and a too vigorous growing tree might well be lifted and replanted higher to see the effect.

On the whole, I think one cannot easily go wrong in planting, and the critical season of the early spring days, often with bright sunshine and cold winds, merits the gardener's more anxious care. It is at this period that the young tree, undergoing the double task of opening its leaves and making fresh roots, needs attention. A liberal watering—a pailful to a tree—and an overhead syringing will do much to help it on its way. When the voice of the lawn-mower is heard in our land, a mulch of grass will aid to retain moisture and, in strawless days, make a good substitute for the time-honoured mulch of stable manure. A stake for larger trees is desirable, and this should be put in first and the tree planted up to it.

As to the best time to plant, there are many opinions, but the real factor is, if we can get in the trees while the ground is still warm they will make fresh roots; if not, there is no advantage in any one of the winter months. Apples, for instance, hold their leaves and grow often into November, so it is obviously not possible to get these in time for autumn rooting; stone fruits, Gooseberries and Currants can be planted earlier.

Pruning after Planting.—Around this question also have the experts furiously raged together, and while it cannot be dismissed as a vain thing, it must be said that a general rule cannot be laid down. Early planted trees should be cut back, notably Currants and Gooseberries, while older developed trees will be better left. A maiden or one year old tree will make a good growth if cut back after planting at any time during the winter, whereas a late planted standard tree will be best left alone. Trained trees, such as cordons, fan-trained, &c., will, of course, be left also.

E. A. BUNYARD.

(To be continued.)

ERINUS AND WILD GERANIUM ON SOME OUTSIDE STEPS TO A LOFT.

CORYDALIS OCHROLEUCA SELF SOWN IN A STEP.

PLANTS IN STEPS AND PAVEMENTS

BY GERTRUDE JEKYLL.

IT was the example of the natural growth of small plants in the joints of steps and at the edges of pavements that led to their being so planted intentionally, and in very careful hands it is a charming way of gardening. What Nature does in this way is full of surprises, for it sometimes happens that what one would have considered a most unlikely plant places itself in dry wall or pavement and justifies its intrusion by a distinct success. But though plants will of their own accord do well in most unlikely places, when they are intentionally placed it should be with the fullest sympathy with what is known of their needs. It is also important that it should be done in strict moderation, for there are gardens that should be taken as warnings, where the plants in pavements are so much in excess that it becomes impossible to use the paving for its original purpose as a place to walk on, and there are steps so much crowded with vegetation that no one can go up or down without some crushing or bruising of pretty plants. The illustrations show two examples of self-sown plants in the joints of stonework. Some rough sandstone steps lead up to a loft over a stable. They have a partial coating of Moss, but where they join the wall an accumulation of dust and

various small *débris* have formed a little deposit of soil in which Erinus thrives and this year is accompanied by the pretty wild Herb Robert (Geranium Robertianum). Higher up in the same flight of steps a bush of Rosemary has come, also from self-sown seed, and has thriven so well that it has been necessary to cut back all the front branches to allow of free passage.

Notes from a Surrey Garden

By MRS. C. W. EARLE.

As a rule this garden is a dried-up wilderness in August; this wet year it is not at all the case, but the weeds have triumphed—left terribly to themselves for want of labour. In some beds they seem to have kept the ground cool, and the stronger late herbaceous plants have done rather well. As a rule, almost all single-flowering plants are preferable to the double varieties—at least, so I think; but one of the exceptions to this rule is Gypsophila paniculata, the double variety of which is more effective growing or cut to mix with other flowers. It does not stand digging up—at least, that was my experience—but is easily increased in spring by cuttings of the spring shoots, which grow easily, like Phloxes.

Another useful and very effective early autumn plant is Artemisia lactiflora. It is tall, handsome, and creamy white, and generally supposed by the ignorant to be a Spiræa, though not at all the same family. It is flowering better than usual this year, and would be effective near a pond. Artemisias seem to be a very large family with very different growths; the one most known is the "Old Man" of cottage gardens with its sweet foliage. It is quite hardy, but it never seeds here in England, and always has to be grown from cuttings. The wild Artemisia, Wormwood, is used in the making of the poisonous liquor of France called absinthe, of which the French Government are trying to stop the sale altogether. Herbs in alcohol seem generally to render it more injurious. Victor Hugo, describing a woman, says: "Sa main mystérieuse et sainte sait cacher le miel dans l'absinthe." Another version of sweet and bitter. I have a very white foliaged Artemisia, but I do not know its name; it has the whitest leaf in the garden and is useful for mixing with flowers; it lasts well in water, so does to send away in hot weather. I have this year in a large pot a new (to me) African Pelargonium; its name, I am told, is Monsieur Nonin. It is a distinct and beautiful variety, and has remained in flower all the summer, which is unusual with these plants, for as a rule they cease flowering early in the year. The foliage is cut and beautiful. Crinums, the pink and, better still, the white, are magnificent autumn plants. A South African bulb one rarely sees, called Eucomis punctata, is seldom grown, and I have never seen it in any English catalogue, but it is now in full flower. I think my first bulbs came from a nurseryman at Naples. In a good situation and well fed they seem quite hardy. Another pretty autumn plant is Desmodium penduliflorum; it is quite hardy if the stems are cut down every winter. I grow it in a hole in the grass, as even when staked up it wants lots of room to look well. Mine has flowered faithfully every year for over thirty years. The shrubby Veronicas are great favourites of mine. With one or two exceptions they are not quite hardy, but they strike very easily and one must look after them. A kind friend of mine, hearing of my loss last winter, sent me rooted cuttings of forty different kinds, all named; some seem quite small and low growing, and are quite unlike in foliage and growth the usual large-leaved flowering kinds. In gardening, as in life, one often learns something from wholesome neglect. I have now two instances of this. In a cool greenhouse, with the roots outside, I have three Vines—a black and a white and a Madresfield Court. The last named wants better and more tender care and never does well. At the time of thinning this spring the gardener was called up, and the bunches remained unthinned. The Vines have never before done so well nor looked so pretty, and the Grapes tasted like those grown round Paris. I shall never again have that tiresome job of thinning done; of course, the fruit is smaller.

The other hint comes from a friend who left her Lilium speciosums in the pots after flowering, they were hidden away under the greenhouse stage by accident, where they had a certain amount of moisture from the drip of other plants. She found them beginning to show growth this spring, so was afraid to repot, and only filled up with as much fresh soil as she could, and they have flowered well, though rather late. My Egyptian Onions have done very badly this year, which I attribute to the wet, cold summer; they were not replanted, but are growing vigorously now. They are mentioned in Vilmorin's famous vegetable book, translated by Robinson, but even he gives no instructions as regards their cultivation, replanting, &c., so I suppose sunshine is all they really want.

THE REMARKABLE TREE OF PIERIS FORMOSA AT PENTILLIE CASTLE, CORNWALL.

PIERIS FORMOSA IN A CORNISH GARDEN

I AM sending two photographs of Pieris formosa, taken in the gardens at Pentillie Castle, Cornwall. The tree is quite 25 feet in height, and is mentioned in "Trees and Shrubs for English Gardens," by E. T. Cook, as the finest example in the country. When in full bloom it is magnificent. The second photograph shows a nearer view of the clustering flower sprays. The tree must be of considerable age, but no one knows when it was planted; it is growing on the soil that suits Azaleas and Rhododendrons so well. The odour of the flowers is wonderful—a mixture of the Lily of the Valley and a faint odour of everything that is delicious. Its scent pervades that portion of the garden, and the air is filled with the humming of the bees. The garden lies above the castle on a high plateau, and covers four acres. A. H.

AN ATTRACTIVE GARDEN

WRITING from Kirk House, Kirkmaiden, Wigtownshire, N.B., on August 25, the Rev. David R. Williamson says:

"I have seen many interesting gardens this year, a number of which had special characteristics, but none more fascinating than that of Mr. Robert Davidson, Head-master of the Central School in this parish, to which, with exhaustless patience and perseverance (yet not without occasional physical exhaustion) he consecrates all his leisure hours. By his example in the school garden, which is of large dimensions, he has imparted to his pupils that love of Nature which is the chief solace of the conscientious, earnest life, and which makes horticulture especially an abiding fascination. Most flowers of any value for ornamental purposes succeed admirably in Mr. Davidson's private garden, particularly Narcissi, Violas, Pansies, Irises and Sweet Peas. Among the charming Daffodils that grow to absolute perfection within its half-shady precincts are Sir Watkin, queen of the incomparabilis section; Victoria, one of the grandest contributions of Messrs. Barr of Covent Garden to the glorious bicolors; Empress, Grandis and Horsfieldii; while many of the older and hardly less effective varieties of this much-loved flower, such as Narcissus scoticus and the familiar English Lent Lily, are lovingly grown. In the school garden there is always a superb display of fragrant Wallflowers and Sweet Williams, profuse in flower and of strikingly contrasted hues; while Sweet Peas and Roses, including many of the finest modern varieties (notwithstanding great exposure to the force of the east winds) are cultivated by Mr. Davidson with marvellous success. This exceedingly assiduous amateur horticulturist, whose efforts in the garden can hardly be overestimated (but whose health is hardly adequate to the extent of his exertions) has also a notable collection of the grandest herbaceous flowers."

The Kitchen Garden

WORK TO BE DONE IN SEPTEMBER.

IT is very important during the month of September to keep down all weeds. September is often a "month of weeds" as bad as May, except that they are not so much taken notice of. But they soon cover the ground, smothering cultivated crops and spreading their seed broadcast all over the place. Groundsel will be very abundant. There is only one remedy, and that is eradication. All efforts must be drastic and persistent. Also there are crops to be lifted and stored, and large plantings may be made of Cabbage, Endive, Lettuce and Onion, and even thinnings of Spinach.

Cabbages.—These should be in their permanent quarters some time before the end of the month, as this affords an opportunity of the plants obtaining a good roothold before the end of the growing season. Plant on the crowding system without overcrowding, on well-prepared and rich soil. Large Cabbages for use in spring can be planted 2 feet apart, if desired, with Coleworts or other small Cabbages in the interspaces. These must be removed, however, before spring growth commences. Of course, Cabbages are transplanted right through October, but it is so much better for the crop if the work is done in September A little Cauliflower seed sown in a frame, or in a pan in the greenhouse, will produce plants for early work. The transplanting of any remaining plants of Broccoli, Kale and Savoys must be finished at once.

Cardoons.—The treatment to which Cardoons are subjected is similar to that for Celery. Growth will have finished completely, or nearly so, and blanching commences. The work is done on a fine day when the soil is dry. Before earthing up, matting or haybands must be placed around the plants to protect them from contact with the soil. When using haybands, begin with one end at the base of the plant and bind upwards to the top until only the foliage shows. Then earth up as for Celery. Blanching takes about six weeks.

Celery.—Earthing up of Celery checks growth, so if large sticks are desired it is advisable to delay the operation so as not to commence a day too soon. But it takes quite five weeks to blanch Celery well, and it will be necessary to continue blanching in accordance with prospective needs. Do the work on a fine, dry day, and take care that no soil finds its way into the hearts of any of the plants. The earlier crops are already earthed up.

Corn Salad sown now will produce plants in the spring. Little attention is required. They succeed in any soil, but, of course, do better on moderately rich, well-prepared plots. Successional sowings are made as a small place becomes available from August to October. Leaves of Corn Salad are very useful for mixing with other salads.

Chards.—Those who go in for Chards—and some prefer them to Cardoons—will need to commence blanching when it is thought that sufficient growth has been made. They take fully six weeks to blanch, and the operation is performed in the same way and by the same method as recommended for Cardoons. Hay or straw may be used for banding; this is then covered with earth.

Cucumbers.—One needs to be on his guard against the diminution of heat. As the heat wanes the growth will gradually abate. At this time of year much care needs to be exercised in the management of Cucumbers. It will not be wise to make only a single sowing; it is much better to make occasional sowings between now and the end of October. In cold weather moisture is best secured by syringing or sprinkling the walls and floor of the house with water instead of syringing the foliage. Plants will need repotting once or twice. Successional sowings provide a supply of plants to take the place of the old ones as they get past their best.

Endive, to be thinned and planted out, if possible on dry, sloping ground. Set out some plants in frames or on the ground of the greenhouse or vinery. Old frames, so long as they have some kind of glass covering, are suitable. Endive plants should be strong and compact from the beginning. (For details of culture, see THE GARDEN for August 11, page 320.)

Lettuce.—Any variety of the following may be sown for winter use: Cos—Covent Garden White and Brown, Hardy Winter White and Brown Bath; Cabbage—Daniels' Continuity, Hammersmith Hardy Green and Standwell. For French or cloche gardening, Parisian Coche Lettuce and Harbinger Forcing are good sorts. The ground for outdoor sowings should be well dug, but not manured. Sow the seed thinly so as to prevent overcrowding of the plants and the necessity for heavy thinning. Plants of August sowing should be planted out as soon as possible to ensure their being well established before winter. L. M. MARSHALL.

A NEARER VIEW OF THE PIERIS BLOSSOM.

COLUMNS FOR THE CURIOUS

Mignonette and Rain.—*A propos* of the letter "Mignonette and Rain" in your issue of September 15, I have often heard people in this part of Lancashire remark that there will be rain when the perfume of any scented flower or plant is particularly noticeable; and more especially is this the case in the evening. The smell of Sweet Briar cannot be detected at any great distance from the plant, except before rain. The reason why the perfume of flowers and plants is more noticeable before rain and at dusk is because the air is then more strongly charged with humidity than at other times; or, to put it more accurately, the amount of moisture in the atmosphere has more nearly reached the point of being discharged as rain or dew; and the sense of smell is more easily stimulated in a moist atmosphere.—J. E. H., *Waterfoot, near Manchester.*

ROSE YORK AND LANCASTER.

(Verses sent with a White Rose by a Gentleman of the House of York to his Lancastrian Ladye-love.)

Should this fair Rose offend thy sight
  Placed on thy bosom bare,
'Twill blush to find itself less white,
  And turn Lancastrian there.

But should thy ruby lip it spy—
  As kiss it thou might'st deign
With envy pale 'twill lose its dye
  And Yorkshire turn again.—E. F. C.

Pierre Morin.—Gentle reader, you of a literary turn of mind I mean, you who are a lover of old-time gardening books—and there are many of you among the subscribers to THE GARDEN—do you know Pierre Morin—Pierre Morin, the famous French florist? Of course, I do not mean personally. He lived too long ago for that. But do you know him by repute? If not, I will try to tell you something about him. That he was famous in his day and generation is beyond dispute. The Abbé Grégoire called him the "Vilmorin" of his age. He lived in the seventeenth century, and was probably descended from a family of florists. His brother René Morin, also a Parisian florist, published the oldest known French catalogue of its kind. Its title was "Catalogus plantarum horti Renati Morini inscriptarum ordine alphabetico, cum quatuor anni temporibus, quibus florent" (Parisiis), 1621, 12mo, a floricultural literary rarity that would delight the heart of some of the collectors with whom I am acquainted.

But Pierre Morin also issued a catalogue of flowering plants in his garden, or perhaps it would be more correct to say a series of catalogues in one volume, a small quarto of 48 pages, bearing the title of "Catalogues de quelques plantes à fleurs qui sont de présent au Jardin de Pierre Morin, le jeune, dit Troisième, sçitué au fauxbourg Saint-Germain, proche la Charité." From the entries in Pritzel it would appear that this little volume was reprinted on several occasions between 1654 and 1658. The catalogue contains the names of Tulips, Ranunculuses, Irises and Anemones, which may be assumed, I think, to have been

Morin's leading specialities, although the Carnation was then a most popular flower in France, and a special cultural treatise on the subject was subsequently written by him and formed part of his florists' guide, which is referred to further on in these notes.

Later, Pierre Morin published some other works, which will be briefly alluded to before my observations are drawn to a close. In the meantime, however, it will be interesting to see what a great contemporary Englishman says about this old French florist. John Evelyn in his Diary, under date March 28, 1644, says: "The next morning I went to the Garden of Monsieur Morine [*sic*], who from being an ordinary gardner is become one of the most skilful and curious persons in France for his rare collection of shells, flowers & insects.

"His Garden is of an exact oval figure, planted with cypresse cutt flat & set as even as a wall: the tulips, anemonies, ranunculus's, crocus's, &c., are held to be of the rarest, and draw all the admirers of such things to his house during the season. He lived in a kind of Hermitage at one side of his garden, where his collection of purselane and coral, whereof one is carved into a large Crucifix, is much esteemed," &c.

Seven years later John Evelyn appears to have paid another visit to Morin, for under date May 23, 1651, he writes, "and as I return'd I visited Mr. Morine's garden and his other rarities. . . . He had also the pictures of his choice flowers and plants in miniature. He told me there were 10,000 sorts of tulips onely."

Subsequently Pierre Morin published his well-known little manual, "Rémarques nécessaires pour la culture des fleurs," the first edition being dated 1658. It was often reprinted; I have those of 1670, 1677 and 1694. Others are noted by Pritzel as having been issued in 1665, 1674 and 1698. The later editions of Morin's floricultural guide are chubby little 12mo volumes divided into a monthly calendar and various other headings specially relating to the flower garden and its occupants. The names are given in lists of those flowers in bloom during the twelve months of the year, upon perusal of which the reader is not a little surprised to find that French gardens in the seventeenth century were so liberally adorned with flowering subjects. There are many other details in the book too numerous to mention. The volume concludes with a series of short catalogues (each with a separate title and preface) of flowering plants in his garden, viz., Anemones, Ranunculuses, Tulips and Irises, paged in with the book itself. Although the items are unpriced, they were presumably offered for sale.

Morin is also credited with the authorship of another similar little hand-book for florists, and this, like the preceding, ran into several editions. It was entitled "Nouveau traité pour la culture des fleurs," the first edition appearing in 1674. I have this and also editions dated 1682 and 1704. In addition to Pierre Morin's literary labours in floriculture, mention may be made of another of his works, entitled "Instruction facile, pour connoistre toutes sortes d'orangers et citronniers, &c." (Paris, 1674).

Such are a few brief notes of a famous French florist, of whose career more can be gleaned by the enquiring student of floricultural history if need be. For some of the facts in this article it is only proper to state that I am indebted to M. Georges Gibault's essay on old horticultural literature. References will be there found to articles on "Le Jardin de René Morin" and "Le fleuriste Pierre Morin," by M. Hamy, which have appeared in different bulletins of the Muséum d'histoire naturelle.—C. HARMAN PAYNE.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Trenching is so important a detail in connection with vegetable production, especially in the case of newly broken up ground—grass or otherwise—and which was perhaps done in a hurry during last spring, that such land will benefit immensely by being trenched this autumn as fast as the crops are cleared. Dry weather is the most suitable period for trenching, especially land heavy in character. If trodden upon when wet the soil kneads, and in spring it requires much more manipulation to get it into good working order. Plots from which Peas, Beans, Cabbages or Potatoes have been cleared should be trenched at least 2 feet deep. Such plots will be in good condition next year for Onions, Carrots, Parsnips and all such deep-rooting subjects.

Cabbages.—Slugs have been very troublesome to newly planted plots owing to continued showers. Fill all such gaps up at once and put out the final batch of late-sown plants, using around each a plentiful supply of finely sifted coal-ashes.

Onions.—The latest batch of Onions should be lifted, laid in a sunny position to dry, removing any decayed leaves and gradually trimming off the roots before finally storing in a cool shed or room, or, what is better still, tying them in ropes on string or a stick a yard or so long. In this way they can be suspended from the roof in a room or shed. A late sowing of Tripoli varieties would perhaps serve a useful purpose in spring for filling up gaps, owing to losses during the winter.

Salsify should be carefully lifted and stored in sand or ashes in a shed, or at the foot of a north wall where ample protection could be given during the winter.

Mushrooms.—Collect and prepare the ingredients—horse-manure, short straw, and a few freshly gathered leaves if the manure is scarce. Put in a heap in an open shed or protect from rain in the open, allowing the mass to ferment sufficiently to throw off the rank steam before finally making up. The material should be not less than 15 inches thick when made up in a house or shed. Make the mass very firm by beating down the manure as it is put together.

Endive.—Blanch those plants growing in the open in small batches by tying up the outer leaves over the crown of the plant, and by excluding light with an inverted pot, covering with a tarpaulin, or even by laying a slate on the centre of each plant. Plants sown last month should be pricked out in frames for winter and early spring use.

Potatoes.—Lift as fast as possible all varieties and sections, carefully selecting the seed tubers, which should weigh from 1oz. to 2oz. Allow these to become thoroughly dry by exposure before finally putting them away for the winter. Any misshapen tubers should be rejected, as they do not represent the true type of any variety. Be careful to pick out any tubers having a suspicion of disease, as they are certain to contaminate those adjoining.

The Alpine Garden.

Bulbs.—Now is a good time to plant bulbs, such as Aconites, Alliums, Chionodoxas, Jonquils, Muscari, Snowdrops, Scillas, dwarf Tulips and the small-growing forms of Narcissi, such as N. triandrus albus (Angel's Tears) and other dwarf-growing sorts. Quite an interesting feature can be made with these bulbs in vacant places in the rock garden without harming the regular occupants. A pinch of sand under each bulb when planting accelerates root action.

The Flower Garden.

Violas should now be propagated for next season's display, taking cuttings 2 inches to 3 inches long from the base of the old plants and rejecting all that are flowering shoots. Insert them in sandy soil in a cold frame, give a good watering, and shade from bright sun for a few days. The lights need not be put on except in the event of heavy rain.

Border Carnations should be planted at once to ensure the roots getting well hold of the soil before winter. Lift the layers carefully with soil attached to the roots, and plant on well-prepared ground 10 inches apart where required in beds for supplying cut flowers. If to be put in the front of the herbaceous border to fill gaps or take permanent positions, plant in groups of three or five to produce a colour effect. Where the border is not ready for their reception, plant them thickly together in a frame or on a border until the spring, when they can be transferred as required.

Pentstemons for next season's display should be increased by inserting cuttings of non-flowering shoots in pots, boxes, or in a bed in a cold frame, where they may remain until April, when they can be planted where they are to flower.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Flower Garden.

Cuttings.—A great variety of plants are readily increased by means of cuttings, for which I prepare beds in cold frames. These need not be more than 4 inches in depth, and the soil is covered with a layer of sand as much to keep weeds from germinating as for any other purpose. Most of the cuttings do not ask for much space. Violas, for instance, may be touching, provided they are removed early in spring. In addition to these, Viola gracilis varieties and common Pansies, Boyle's Black and others, are propagated annually. Gazania splendens, Lavender, Sage, Rosemary, Lavatera Olbia, common Calceolarias and shrubby Veronicas are others which are preserved or increased in the same manner now.

Zonal Pelargoniums.—These should now be well rooted, and if not already cleaned of decayed foliage, it must be seen to at once, else damp may cause rot. There is no need to hurry to place the boxes under glass, and as a rule there is no frost to hurt in most localities till November, any slight frost before then being kept off by ordinary coverings, and the longer the young plants can be kept in the open the better. Old plants to be lifted from beds should not be left too long, as we usually get a sharp snap about ten days hence. To prepare the plants, all long roots should be shortened and the greater part of the foliage removed, also flowers and buds. Box them in rather light soil and keep on the dry side. If wintered in a dry, airy structure, scarcely any water at the roots will be required.

Other Plants.—All the other plants to be preserved should also be lifted in good time, and if to be placed in pots, select those just large enough to contain the roots. Large Fuchsias may be preserved in cold sheds covered with straw. Agapanthuses are stood close together in a cold pit and left alone till late in spring. Cannas are usually difficult to winter, and so are Lobelias of the cardinalis type. The colder these are kept the better, so long as they are not frosted, a covering of flaky, half-decayed leaves being a valuable aid, laid over them. This at once keeps out frosts of ordinary severity and maintains an equable degree of moisture in the balls of soil with which the plants are lifted.

Plants Under Glass.

Fuchsias.—These may be roughly trimmed and left to dry off for storing away for the winter. Young plants for specimens—not now much in evidence—may have a final shift and be placed in a structure where they will keep growing slowly throughout the winter months.

Pelargoniums.—Summer-struck growths of decorative varieties, if not already potted into 5-inch pots, should be shifted at once and also kept just moving. Aphis is usually the greatest source of trouble with these, but occasional fumigation keeps them quite free from that pest.

Primulas.—Obconica gigantea still in cold frames and throwing flowers should now be transferred to a slightly warm pit. If too warm the colour, so lovely in this strain, will be spoilt. The plants need much water at the roots, and occasionally manure. Forward plants of malacoides and its varieties do well in a cool house. Last spring plants out of doors withstood 29° of frost, so there need be no fear of damage. The common sinensis succeeds best with enough heat to keep the plants on the move; but the obconicas are so fine that if there is room for only one of these I would prefer to have the latter.

Begonias.—These should be allowed to dry off slowly by withholding water and keeping the plants cool. The stem snaps off at the junction with the tubers, and when this happens the pots with the tubers should be stacked away in a frost-proof, dry place, where they will remain safely till spring. Gloire de Lorraine varieties may now be allowed to produce flowers, which they will continue to do for many months provided they are kept clear of thrips by vaporising and not unduly forced.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

STORING OF VEGETABLES

SIMPLE METHODS OF RESERVING VEGETABLES FOR WINTER USE. HAPPILY THERE IS A PLENTIFUL SUPPLY IN GARDENS.

It behoves all persons now to economise in every shape and form with foodstuffs and to store all possible material for future use. With vegetables a splendid opportunity presents itself, because much may be dealt with, and as they are plentiful in gardens this season, now is the time to set about the various details necessary. I purpose detailing the best means to adopt on both a large and a small scale, whereby the cottager may prepare a supply for the future as well as his more affluent neighbour.

Carrots, Beet and Turnips should be left in the garden until fully grown, but not afterwards. They are easily stored for months in sand in a shed or cellar, or in the open, protected from too much wet and frost. If sand is not available, they can be massed in a heap and covered over with any light material underneath a thick coating of soil.

Couve Tronchuda and Celeriac may be treated in a similar manner, but not in such quantities as the foregoing kinds.

Parsnips keep best where growing until quite late in the spring; in fact, until new growth in the leaves is on the move, when they should be lifted and stored in sand in a damp situation. Should early frost take place in the autumn, cover the crowns with soil 4 inches thick to preserve that portion of the root exposed by the growth of the leaves.

Leeks keep best where growing, except, perhaps, those matured quite early for exhibition. These, when growth is complete, should be lifted and stored in a dry place with moist soil about them, still retaining their roots.

Celery will come under the same category as Leeks, keeping better where growing as long as the hearts are protected from excessive rain; this, when followed by frost, is the principal cause of decay.

Vegetable Marrows can be preserved over a long period, and as they are plentiful this season, a good opportunity is afforded of prolonging a supply. When the Marrows are fully grown and before they become hard in the skin, they should be cut and hung up in a cool, airy shed. The time to cut is best ascertained by inserting the thumbnail in the skin of the Marrow near the stalk; if it penetrates easily, the Marrow should not be cut. The larger fruits, as Long White, Green and Cream, should be allowed to grow to their full size and mature fully. These will keep in a dry room for months, and can be made into jam or used for pies at will.

Cabbages, when nearing maturity, should be half pulled up, severing a portion of their roots in the ground. This will check growth and prevent the plants running to seed.

Cauliflowers, as they approach maturity, should be pulled up, standing the roots in water in a cool shed or behind a south wall, where the Cauliflowers will keep fresh for some time.

Salsify and Scorzonera should be treated in the same way as Carrots and Beet.

Runner Beans may be induced to bear longer by removing the Beans as fast as they grow to their full size and before they form seed, and thus relieve the plant of an undue strain. If the plants can also be protected from early frost, so much the better. The Beans are best preserved by standing the stalks in water.

Jerusalem Artichokes should be left in the soil until required, as they keep better there than anywhere until new growth commences in April.

ERYNGIUM OLIVERIANUM.

Globe Artichokes ought to be cut directly they attain full size and before they harden. Stand the stems in water in a cool shed or under a wall away from the sun's rays.

Onions must be carefully handled. Directly the tops exhibit signs of maturity they should be pulled up, laid thinly in the sun to thoroughly ripen, and then be suspended in ropes or singly from the under side of the roof in a cool shed, or be spread thinly on a boarded floor. The early growing Tripoli varieties may be longer preserved than ordinarily by pulling them up directly their full growth is assured, removing the slightest sign of decayed skin and giving them an airy position.

Cucumbers keep best placed in a box one layer thick on green Nettles and buried 1 foot below the surface.

Rhubarb is best made into jam when fully matured in its growth.

With regard to the growth of such crops as Brussels Sprouts, Savoys, Broccoli, Kales and other winter vegetables already in existence, these should be encouraged to grow to their fullest extent by keeping them free from weeds and constantly stirring the soil.

Sowing and Planting.—Every available piece of ground between fruit trees should be planted with Cabbages, Coleworts, late Savoys and Kales. Quantities of Spinach, Onions, Carrots, Turnips and so forth should be sown without delay among Strawberries or on any vacant places; even flower-beds might be extemporised for such crops as are still available by planting and seed sowing. Appearances in the garden are of little account in case of such dire necessity as we may be put to in the near future, when sentiment avails but little.

The preserving of such vegetables as Kidney Beans and green Tomatoes in bottles, too, should not be forgotten.

S. H.

Two Good Sea Hollies

THE Eryngiums are among the chief glories of the garden in July. They are always imposing plants, with their splendid structure, their appearance of great strength, with nobility of aspect, and their wonderful metallic lustre; in the case of one, like the blued steel of damascened work, and in the other of polished silver. The accompanying illustration shows a border filled with Eryngium Oliverianum, the kind commonly sold in nurseries as E. amethystinum. The flower-heads, with their handsome fringe of bracts, and especially the stems, have the curious and beautiful tinge of metallic bluish colour so characteristic of these plants. The nearest part of the group in the picture is composed of a remarkably fine garden variety, taller and larger altogether than the type, and of a deeper colour; the strong metallic blue of the stem and general bluer tinting make it stand out distinctly from the rest. It came from the garden of the late Rev. C. Wolley-Dod, whose memory is one of the most warmly cherished of the band of great gardeners of thirty years ago, and who, as learned scholar and careful botanist as well as generous friend and splendid English gentleman, will ever be held in memory with reverent and grateful affection by all who had the privilege of knowing him. Eryngium Oliverianum is a long-lived perennial, delighting in a warm, sandy soil; indeed, in such a soil and in full sunlight there seems no end to the duration of the plants. Those in the picture have stood in their place quite twenty years.

The Rose in the background, Evangeline, is one of the most beautiful of the Wichuraiana group. It was only beginning to bloom when the photograph was taken; ten days later the whole was a sheet of bloom. The single flowers, of Dog Rose character but of greater size and substance, are in generous, long-shaped clusters, faintly pink with distinct yellow stamens. It

a Rose of very free growth and should be more generally used. Nothing could be better for rambling over any unsightly shed or outbuilding, or anything in or near a garden that it may be desirable to clothe or hide with a mantle of flowering beauty.

Eryngium giganteum, the Silver Thistle, is a biennial, rejoicing in the same conditions as its congener. It sows itself freely in the warm, light soil, so that one is never at a loss for young plants. G. J.

FRUIT GARDENS OF ENGLAND

I.—MESSRS. CHEAL AND SONS, LIMITED, CRAWLEY.

JUST lately we have been reading in the daily papers of the urgent protests made by representatives of the fruit trade in Covent Garden against the embargo on the importation of Apples. The prohibition, it will be remembered, was enforced early in the spring of this year, when imports of fruits of all kinds were considerably curtailed. A very serious shortage of Apples is prophesied by leading dealers in Covent Garden if the embargo on imports is not removed. We are told that the English fruit will be well-nigh exhausted by December, as there are not half a dozen varieties grown for market that will keep until the spring, and that what few Apples remain will, unless more are shipped, rise to prices beyond the reach of the general public. What! An Apple famine in England when the crops are good? Can it be possible? Here are we, in one of the finest Apple-growing countries of the world, with acres upon acres of fertile land waiting to be brought under cultivation. What fools we have been in "Merrie England"!

Happily, there are large stocks of young fruit trees in the country. Our leading nurserymen in the fruit tree trade looked far enough ahead to provide for the increased demand that seemed certain to follow. We purpose during the planting season to describe some of the leading fruit tree nurseries of the country.

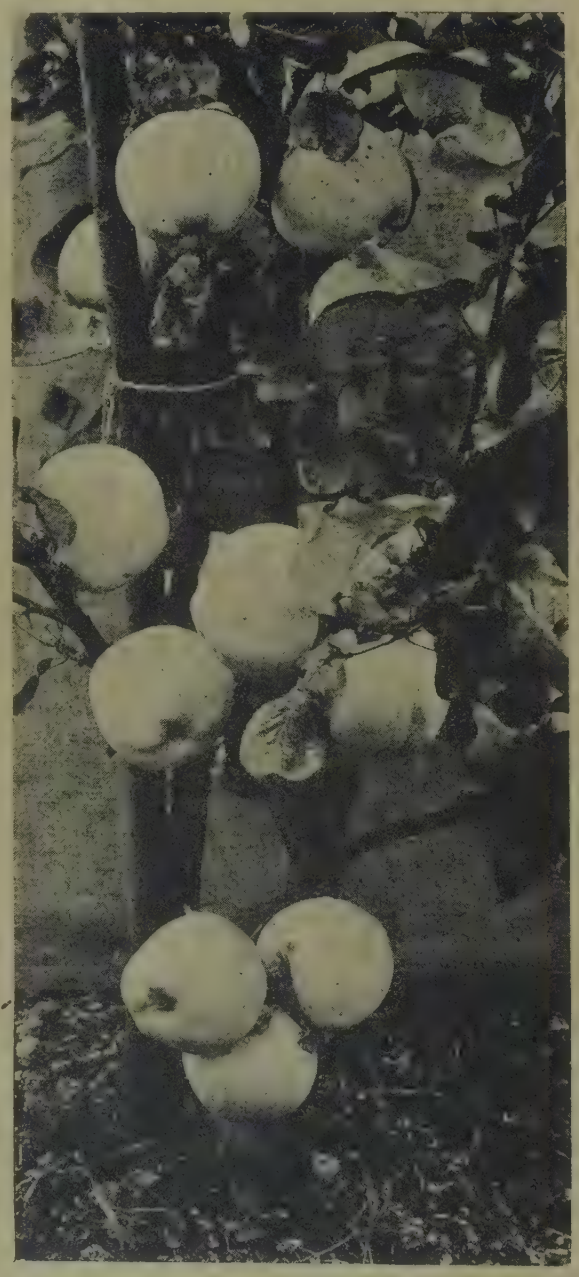
The Fruitfulness of Young Trees.

A few days ago we journeyed to Messrs. Cheal and Sons' nurseries at Crawley, and the one thing in the nursery with which we were most impressed was the prolific crops borne by young trees. There were trees of the new cooking Apple Rev. W. Wilks, no more than four years old and carrying sixteen and eighteen fruits on a tree, each fruit large enough to make a good-sized Apple dumpling. But the variety named after the respected Secretary of the Royal Horticultural Society is known to be a precocious cropper; it will even fruit on a maiden tree. It is a culinary Apple in season from September till November, and it is so extremely fertile that it is prophesied "bushels of Wilks" will be as plentiful in Covent Garden a few years hence as the shellfish are in Billingsgate. This promising market Apple was raised by Messrs. Veitch from Peasgood's Nonsuch × Ribston Pippin and introduced in 1908, having received first an award of merit, and later a first-class certificate from the Royal Horticultural Society.

Royal Jubilee was another culinary Apple to arrest attention in passing down the long lines of healthy young trees. It is a good cooker, of sturdy growth, and, flowering very late, escapes the late frost. It always bears a good crop, and is one of those varieties which should find a place in every collection.

An Apple that attracted attention by virtue of its bright colour and heavy crop was Crawley Beauty, an excellent late cooker of local origin. The fruits are splashed and striped with crimson. It is a culinary Apple that will keep till April or May and, like the Wise Apple, is late in flowering, thereby escaping injury from late spring frosts.

Three other Apples of local origin are Crawley Reinette, Nanny and Jolly Miller. The first of these was carrying a magnificent crop. The original tree is still standing in the nursery, and Mr. Alexander Cheal remarked as we passed by that it was raised from a pip sown by his mother. A large tree of the variety Nanny near the entrance to the nursery was carrying an exceptionally heavy crop of highly coloured fruits. Like its companion Jolly Miller, it is not very well known outside the County of Sussex.



A FOUR YEAR OLD TREE OF APPLE REV. W. WILKS.

Newton Wonder is one of the very best culinary Apples in cultivation, and is in season from December till May. The older trees were bearing very well, and from the great stock of healthy young trees in the nursery Messrs. Cheal and Sons are well prepared for a big demand.

The Crab Apples, too, were in the height of their autumn splendour. One of the finest is Cheal's Crimson Crab (Pyrus prunifolia coccinea), for which an award of merit was given a few weeks ago. The Hyslop or Dartmouth Crab, John Downie, Siberian Crab or Cherry Apple, and Transcendent were all remarkable for their brilliant colouring and prolific crops.

Dahlia-time at Crawley is a sight to be remembered. From the garden point of view the Star Dahlias, which originated at Crawley, stand out from all the rest. We are glad to see that Messrs. Cheal are now getting many delightful shades of colour into this new type of Dahlia. We must, however, give a word of praise to the decorative variety Crimson Flag, by far the most effective of the section and a brilliant but beautiful colour.

A COLUMN FOR THE BIBULOUS

THE Editor, I fear, will be very shocked at the title of these notes, and if he allows it to escape his blue *devil* (I refer, of course, to his pencil of that hue!) he will certainly run the risk of offending those readers who are total abstainers, as well as those who by reason of the war are ardent supporters of the "Down Glasses" campaign. But (may I be allowed to argue the point?) if the "curious" are granted a column to themselves, why should not those of us who are interested in things "bibulous" be allowed to "have our say"? Chambers' Twentieth Century Dictionary—a valued occupant of my study table—clearly shows that there is a connecting link between the word "curious," *i.e.*, *skilfully made*, and the subject of these notes, which is *home-made wines*. And if any further apologia is needed for a dissertation on "gentle stimulants" in THE GARDEN, I would remind my horrified readers of what the Muse of Anacreon, in an ancient relic of Grecian song, has to say concerning it:

"The dark earth drinks the falling rain,
Trees drain the moistened earth again;
Ocean drinks the mountain gales,
Ocean's self the sun inhales,
And the sun's bright rays as soon
Are swallow'd by the thirsty moon.
All Nature drinks! If I would sip,
Why dash the nectar from my lip?"

Damson harvest is almost with us as I write, and the myriads of trees in this county and the adjoining one of Shropshire are glowing with a plenteous harvest of purple fruit, which is being safely garnered into brimming "pots" by the women of the lonely villages and townships.

There is an old Worcestershire saying that if you ask a man from Pershore in a *bad* fruit season where he lives, he replies, "Pershore, God help us!" But in such an *annus mirabilis* of fruit as this he would reply to this same enquiry by sticking out his chest and saying, "Pershore; where d'ye think?" This year the times are out of joint, and I am a little puzzled as to what reply one would receive to this query, for the scarcity of labour and rough wet weather have made things *difficile* for everyone. Then, again, sugar ("white diamonds," as "Anne Amateur" aptly terms it) has curtailed the demand, and I fear that not one quarter of the Damson cheese or Damson wine for which the cottagers of Worcestershire and Shropshire are famous will be made this season. Lord Rhondda does not appear to have expressed his opinion on the question of the use of sugar for making wine, and I expect, like poor Marrow jam, it will be banned. But as I have laboriously pinched myself of sugar for a twelvemonth in order to make "Worcestershire claret," I am going to run the risk of brewing some, and also increase the enormity of my offence by telling others how to do it.

First and foremost, the Damsons must be grown on the red sandstone formation, and be gathered on a dry day. Select perfectly sound

fruit (an old recipe in my possession reads "the fairest Damsons off the tree"), wipe it and remove the stalks, and when it is *dead* ripe bruise it gently without breaking. Weigh the fruit and put it into an earthenware pan or bowl, and to each 8lb. of fruit pour on a gallon of *boiling* water, covering with a thick cloth to keep in the steam. Let this stand for four days, stirring daily three or four times with a wooden spoon. Then draw off the liquor, and to each gallon add 3lb. or 4lb. of loaf sugar and half a pint of French brandy. As soon as the sugar is dissolved, pour it into an earthenware cask through the bunghole. These casks can be obtained to hold from one to five gallons, and their cost is now about 1s. 3d. per gallon size. They should be fitted with a spigot (small plug) and a faucet (short wooden tap), in addition to a large cork for the bunghole.

After the wine has been poured into the cask it will need time to ferment, and during this process the bunghole should be kept covered by a cloth folded into several thicknesses. When fermentation is completed, close the bung tightly and let the cask remain undisturbed in a cool cellar for twelve months. After this period it may be racked off into bottles, and if well corked and kept in a dry, cool place, it will keep good for years.

There are numerous superstitions as to when wine should be racked. The English author of the "Art and Mystery of Vintners and Wine Coopers" says that "the best time to rack wine is in the decrease of the moon, the wind being at north-east or north-west, but not at south, and the sky serene. . . . The times of the year when wines are observed to be most subject to ferment and fret are midsummer and Allhallows, when our vintners used to rack them from their cross lees; and they choose to do it in the wane of the moon and fair weather, the wind being northerly."

There are several variations in the recipe I have given for Damson wine. One is a gallon of fruit to a gallon of boiling water, but the sugar is added to the water before it is boiled and then poured upon the fruit. Most cottagers omit the brandy and use 3lb. of sugar, but when racking off the wine a lump of sugar is placed in each bottle.

Good Damson wine should be the colour of good Burgundy, *e.g.*, Château de Clos Vougeot, after which *vin velonté* my friend M. J. Pernet-Ducher named that fine but sprawly habited Rose that most of us grow. Vougeot, by the way, is derived from "La Vouge," a sparkling stream running close by the estate, which at one time abounded with trout.

Connoisseurs will smile at my audacity in comparing Damson wine with "peerless" Burgundy, but let them come and have a day's shooting in Bewdley Forest and taste some fifteen years old! It is a wholesome drink and

"It does no harm to take a glass or two,
Tho' from great numbers mighty ills ensue."

The ills in this case would probably be that one's joints might swell like those of a Hemp Nettle.

One word more. If, dear reader, you decide to follow my example and make ready a barrel for the time "when the boys come marching home," do not also copy my example, or be like Mrs. Bennet or Mrs. Philips in Jane Austen's "Pride and Prejudice"—"Mrs. Bennet was privileged to whisper it to Mrs. Philips, and *she* ventured, without any permission, to do the same by all her neighbours in Meryton"—but keep the secret strictly to yourself lest you receive a visit from the Food Inspector. If, however,

eke out a miserable existence like that of Diogenes, of whom we are told:

"Diogenes, surly and proud,
Who snarl'd at the Macedon youth,
Delighted in wine that was good,
Because in good wine there is truth;
Till growing as poor as a Job,
Unable to purchase a flask,
He chose for his mansion a tub,
And liv'd by the scent of the cask!"

Kidderminster. ARTHUR R. GOODWIN.

BOOKS

The Perpetual-Flowering Carnation.*—The introduction of a book dealing purely with flowers in such times as these requires confidence sublime, but all who know Mr. Montague C. Allwood will readily agree that he lacks nothing in that direction where Perpetual-flowering Carnations are concerned. Indeed, one might hazard that he is a super-optimist, and therefore his latest literary effort will occasion little surprise. As he points out in the Preface, his large standard work is out of print, and to meet the demand of the moment he has revised and compressed into a shilling edition practically all that his earlier work contains. It goes without saying that this small 112 page volume is crammed with practical pointers easily understandable by the veriest novice. Unlike some practical men, "M. C. A." never attempts to talk over his readers' heads, and the fact that he grows Carnations by the scores of thousands does not lead him to assume that all his readers have that modicum of knowledge which will enable them to understand professional jargon. Our author is of the stamp that both talks to and talks at his readers in a free and easy style that is truly "Allwoodian." Just as he is a unique character, so is his style of writing, and it is this dominantly assertive style that has made him the successful business man he is. In the twelve chapters of the volume under notice he explains everything the amateur wants to know, and one, furthermore, gets the impression that the services of the author are still available, should any doubtful point crop up. The book is well printed and freely illustrated with practical and interesting photo engravings. True, there are one or two small printer's errors, and one feels disposed to challenge the statement that freezing will destroy eelworm. As a whole, however, it is a capital little book, and I have spent an enjoyable hour and a half in camp perusing it.—T. A. WESTON.

* The Perpetual-Flowering Carnation," by Montague C.

MIGNON DAHLIAS IN AN OLD ENGLISH GARDEN AT CRAWLEY.

ANSWERS TO CORRESPONDENTS

KITCHEN GARDEN.

BEAN TO NAME (*Somerset*).—Your Bean is a variety of the Prague Kidney Bean, which is itself a form of the Climbing French Bean. One of these varieties is called the Two-coloured Italian Kidney Bean, but that has seeds half white, half pale chamois, and pods of a lively red when ripe. The Red Prague Kidney Bean has dark brown-red seeds.

CELERY PLANTS DYING OFF (*Renraw*).—We cannot, in a long experience, call to mind having come across a similar case to yours. We notice that the tip ends of practically all the small roots are dead. This seems to point strongly to the fact that there must be something of a sour or poisonous nature in the soil or in the manure. Has the manure been collected from roads over which tar has been laid or where there has been much motor traffic? This would help to explain the trouble if it has been. To save the rest of the plants, we should be inclined to make a new trench and replant those left in new, sweet and well-manured soil. The plants would scarcely feel the shift, provided you are careful to lift them with a large ball of soil, to well water, and shade for a week or ten days. Mix some lime and soot with the new soil.

POTATOES AND WIREWORM (*Towns End*).—Wireworm is always more prevalent in soil which has been lying dormant for some years under Strawberries, as in your case, or under grass, than on soil which is frequently disturbed in cultivation. Unfortunately, wireworm has been most destructive to Potatoes this year, especially on grass land brought under cultivation for the first time. Wireworm is one of those pests of the soil which cannot be exterminated by any known means other than picking by hand or by the instrumentality of birds picking them up when seen on the surface. The best and only effective way of getting rid of them is to be well on the look-out for them when digging or trenching the soil, and then pick them up and destroy them; and by frequently deeply hoeing the ground during spring and summer. The disturbing of the soil brings them to the surface, when they can be picked up or destroyed by birds.

STORING CARROTS (*A Reader*).—A good time to take up the Carrots will be about the middle of October. They are hardy, so a little frost will not hurt them. Take no notice of a few of them splitting; that is common in all seasons. The best way to store them for winter use is to pack them one on top of another in sand (not too damp nor too dry) against a wall in an outhouse or cellar, or some other such out-of-the-way place. See that [illegible]

FRUIT GARDEN.

INJURY TO APPLE LEAVES (*Rex*).—The Apple foliage is attacked by two boring insects, both belonging to the very small moths, the Tortrices, viz., Lyonetia clerckella and Nepticula malella. Neither does much damage, coming as the attack does towards the end of the growing season. The burning of the foliage is due to some cause other than the attack of insects, and is possibly the result either of exposure to cold winds or of interference with the water supply. The hoe is as important an implement in the orchard, especially the young orchard, as it is in the vegetable garden.

INJURY TO PEARS (*A. H. W.*).—The Pears have been attacked early in the season by Capsid bugs, active green, or sometimes brown, insects that run sharply about the trees, easily visible to the naked eye but very difficult to kill. They are best dealt with when seen by spraying with paraffin emulsion to which nicotine at the rate of half to three-quarters of an ounce to ten gallons of spray has been added. Treatment at the present time is impracticable. The insects are to be looked for about the middle of June or even earlier.

PEACHES WOOLLY AND SOUR (*B. R.*).—The Peach will bear an enormous crop of fruits if allowed to. The proud owner of a tree bearing 300 fruits was at a loss to know the other day why they were so small and flavourless, and asked us to look at the same. There ought to be a law passed for cruelty to trees as well as to animals! Our friend's tree would have swelled and developed fifty fruits to perfection. But 300! We are afraid that the cause is, more or less, the same in our correspondent's case. Better have fifty really good luscious and sweet Peaches than a bushel of nondescripts. Amateurs are always frightened at over-thinning. It would be better for them if they were frightened the other way, and better for the trees, too! There is a rule bearing on this question, and those who are wise should stick to it. At the final thinning of the fruits, after the process of stoning is finished, there should be only one fruit left to every superficial square foot of the surface of the tree.

BITTER PLUMS (*H. S.*).—The Plum sent is attacked by brown rot. Take care that all mummy fruits are picked off the trees during the winter, for it is on these that the fungus passes the winter; and next spring spray the trees with Bordeaux mixture just after the flowers have dropped. It is quite natural for the flesh to cling to the stone in some varieties of Plum, as in many Peaches, &c.

CHERRY PLUM (*H. N.*).—The Plum sent for identification is the Myrobalan or Cherry Plum (Prunus cerasifera). The fruits are edible. The second specimen mentioned in the letter did not arrive.

STORING MEDLARS (*C.R.*).—The fruits of the Mediar are hard and useless until they begin to decay, when the green colouring matter passes away and the flesh or pulp becomes soft, acquiring what is considered by some an agreeably acid flavour. In this incipient state of decay (the process which is called bletting) the fruits are generally eaten raw, but sometimes they are preserved with sugar in the way of jellies and cheese, and a sauce for game is occasionally also made from them. The fruits should not be gathered until the end of October, or later if hard frosts keep away. They should be perfectly dry when gathered, and the best place we know of to store them is the cool end of a fruit room, not giving too much air, and arranging in single layers on paper, the fruits not touching one another. Once softening or bletting takes place, they will remain in good condition for dessert for three weeks or longer.

PRESCRIPTION FOR CATCHING FLIES, ETC., ON FRUIT WALLS (*F. G. F.*).—There is no better way than to partly fill the bottles with beer and then well sweeten with honey, sugar or treacle, and hang on the trees near the fruit.

HOW TO PRESERVE WALNUTS AND FILBERTS (*A. G.*).—The active principle in the preservation of such fruits is in surrounding them with conditions which will prevent evaporation of the juices of the fruit and cause them to shrivel and wither; and, on the other hand, the avoidance of too much damp and cold, causing them to rot. The best way we have found of keeping them is to place them in layers of sand (not too dry nor too damp) in boxes or barrels, and store them in a dry, cool cellar. The position you suggest—under a north wall—would not be a bad one, provided you can protect the Nuts from too much wet and depredations from rats and mice.

PLANTING APRICOTS AND NECTARINES (*M. M. K. C.*).—The two best Apricots are Moorpark and Hemskirk. The two best Nectarines are, we think, Lord Napier and Pitmaston Orange. The former is ripe early in August, and the latter early in September. It is difficult to pick out the two best from among so many good ones. Trays for storing fruit.—Try H. Blacknell, Fleet Saw Mills, Fleet, Hants.

APPLE TREES FOR AN ENCLOSED GARDEN (*A. G. B.*).—There is too much importance given to the sterility and non-sterility of Apples nowadays. If you confine yourself to the so-called fertile or non-sterile varieties only, you bar yourself against possessing many of the best varieties. You had far better mix them up; they will then help one another. Experience has proved over and over again that half-standard trained trees are the best to plant and the most profitable. Three year old trees are the best to plant. They should be grown on the Paradise stock, as they fruit much earlier. The following list comprises the best:—Apples (dessert)—Devonshire Quarrenden and Irish Peach, ripe in July and August; Lady Sudeley, James Grieve and Worcester Pearmain, ripe in September and October; Ellison's Orange, Cox's Orange Pippin and Rival, ripe in October and November; Gascoyne's Scarlet, Blenheim Orange and Ribston Pippin, ripe in December and January; Lord Hindlip, Brownlee's Russet, Allen's Everlasting and Adam's Pearmain, ripe in February and March. Apples (cooking)—White Transparent and Early Victoria, ripe in July and August; Ecklinville, Grenadier, Stirling Castle and Rev. W. Wilks, ripe in September and October; Lord Derby, Mère du Ménage, Norfolk Beauty and Tower of Glamis, ripe in November and December; Beauty of Kent, Lane's Prince Albert and Belle de Boskoop, ripe in January and February; Newton Wonder, Bramley's Seedling and Alfriston, ripe from February to May. Please do not hesitate to ask further questions if we can help you.

ROSE GARDEN.

ROSES FOR NORTH-EAST FENCE (*E. B.*).—You can grow some fine Roses on such a fence providing you prepare the soil well by deep digging and manuring. The following would be excellent: Florence H. Veitch, Hugh Dickson, Bouquet d'Or, Candeur Lyonnaise and Zephyrine Drouhin.

ROSES GOOD FOR EXHIBITION AND ALSO FOR GARDEN (*R. E. T.*).—We should place the following as the six best of your lists: Gorgeous, Mrs. C. Russell, Marcella, Margaret Dickson Hamill, Countess of Shaftesbury and Edgar M. Burnett; and then following as next best: Nellie Parker, Cynthia Forde, Mrs. Bryce Allen, Sunburst, Mrs. C. Reed and Duchess of Normandy. If you have not got them, add Clarice Goodacre, Cleveland, Mrs. B. J. Walker, Mrs. F. Dennison and Mrs. Mackellar.

FLOWER GARDEN.

DIVIDING GENTIAN (*E. T. Martin*).—If by "out-of-doors Gentian"—all Gentians are hardy and should be out of doors—you refer to the common Gentianella, G. acaulis, there is no better season than early October for dividing and replanting it. It may be done, indeed, at any moment now. If the clumps are large and growth much congested, pull them to pieces quite freely, planting the divisions 6 inches to 8 inches apart so that room is given for future development. In planting, it is important that the units be gathered together in a level head, as it were, and, holding the little tuft firmly in the left hand, insert it in the soil to ground level after the natural growth of the plant. Firm planting is most essential; looseness the plant abhors. Moderately light or medium loams, well incorporated with old mortar, suit the plant generally. Cold, tenacious clay soils are less well suited to it.

DIVIDING AND REPLANTING CRINUMS (*Rebecca*).—The time to lift and replant the Crinums is when they are in a dormant state. It should be put off as late as possible, but the work must be done before they commence to grow. It will be found that the large club-like bulbs, especially those of Crinum Powellii, extend downwards for some distance; hence particular care must be taken to avoid damaging the bulbs or roots. With the return of spring these are very active, and the plants will soon become established in their new quarters. From experience we know that the operation of digging up large clumps of C. Powellii is not a matter to be lightly undertaken.

THE GREENHOUSE.

CASTOR OIL PLANTS AND AZALEAS (*Miss E. S.*).—The seeds of Castor Oil Plants should be sown in the early part of March and placed in a structure maintained at a temperature of 55° to 70°, when they will soon germinate. The most suitable compost is a mixture of loam, leaf-mould or peat, and sand. In sowing the seeds they should be covered with about one-third of an inch of soil. For obvious reasons we cannot recommend any particular dealer, but most of those in THE GARDEN Catalogue Guide would no doubt be able to supply seeds. We do not feel sure whether your question refers to the true Castor Oil Plant, but are rather inclined to think that Fatsia japonica is meant. This, which is also known as Aralia Sieboldii, is often popularly termed the Castor Oil Plant. From the firm nature of its lobed leaves it is frequently used for house decoration. This is much hardier than the true Castor Oil Plant, and may in its earlier stages be successfully grown in the greenhouse. Presumably your question refers to Azaleas that require the protection of a greenhouse, and are generally known as Indian Azaleas. The different varieties are propagated by grafting on to stocks of one of the strong-growing kinds. Cuttings can be struck, but a good deal of practical knowledge and different appliances are necessary, so that we cannot recommend either of these courses to an amateur. If you obtain established plants, they are not difficult to grow, provided they are given greenhouse treatment. Should your question refer to the hardy varieties, these may be raised from seeds sown in a peaty soil and placed in a cold frame. They will, however, take some years before they flower. Seeds cannot be depended upon to perpetuate any particular variety, as the named ones are increased by grafting, which is, as in the case of the tender kinds, a delicate operation.

TREES AND SHRUBS.

TREATMENT FOR YEW HEDGE AND TO ERADICATE WIREWORM (*F. M. K.*).—Regarding your Yew hedge, we cannot suggest a reason for the branches dying, other than that the roots are probably in a bad state. Such a thing might occur through the ground becoming waterlogged at some time. If the roots are really bad, there is little chance of saving the hedge; but if they are apparently healthy, some good may be done by cutting the branches well back. Some of the worst may be removed now, but it would be advisable to reserve a general cutting back until next April. Wireworms are rather difficult to eradicate, for they exist for about three years in the ground before emerging as mature beetles. The most successful method of destroying wireworms has been to pour a quarter of an ounce of bisulphide of carbon into a small hole made in the ground and at once cover with a piece of turf. Similar holes about a yard apart should be made and treated with the chemical. This, however, is an expensive operation, and is, perhaps, only justifiable on special areas, such as your Strawberry bed. By burying Potatoes and Carrots in the ground and examining them every second or third day many wireworms may be captured and destroyed. A piece of stick should be stuck into each Carrot or Potato so that it may stand 6 inches out of the ground when the Carrot or Potato is buried 3 inches or 4 inches deep. A good deal of information about wireworms is to be found in Leaflet No. 10, published by the Board of Agriculture and Fisheries, obtainable free on application to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W.1.

MISCELLANEOUS.

HERB GROWING (*A. J.*).—It depends entirely upon position as to whether Belladonna and Henbane could be grown successfully in Westmorland. It would be unwise to plant a considerable area without first experimenting with the plants. By applying to the Secretary, Board of Agriculture and Fisheries, Whitehall Place, London, S.W.1, a circular dealing with the cultivation of medicinal herbs can be procured free of cost. A bulletin on herb growing is also published by the West of Scotland Agricultural College, Glasgow. It is No. 78, and is by Mr. A. Hosking. You can procure seeds and get into touch with buyers by applying to the Secretary, National Herb-Growing Association, 20 and 21, Queen Anne's Chambers, Broadway, Westminster, London, S.W.1.

SAWDUST LITTER FOR MANURE (*H. A.*).—Sawdust is the least satisfactory kind of litter to use for manure to be added to the soil of a garden. It is slow to decay, and fungi are apt to grow in or on it, to the detriment of the plants cultivated. Failing other types of manure, and if well broken up, *i.e.*, thoroughly distributed through the soil, it is better than nothing, and will be less harmful than if put in a layer, as farmyard or stable manure too often is.

AN EDUCATIONAL GARDEN (*C. J. F.*).—The largest garden of the kind you enquire about is that of the Royal Horticultural Society at Wisley, near Byfleet, Surrey. This garden is not open to the general public, but Fellows of the Society and those having Fellows' tickets are admitted at any time to see the experimental work in progress, which covers almost the whole range of horticulture. Among the many privileges of the Fellows is the entry to the Gardens and the right to ask for advice, which is always readily given. Full particulars of Fellowship may be obtained from the Secretary, Royal Horticultural Society's Hall, Vincent Square, London, S.W.1.

SUGAR BEET (*E. M. P.*).—We have published from time to time various recipes for the use of Sugar Beet. Probably the most satisfactory way of using it is to boil it and eat it as a vegetable. The general opinion seems to be that the amount of water required to extract the sugar, and the mawkish taste which seems difficult to get rid of, preclude its use in jam-making to any considerable extent.

SUGAR BEET SYRUP (*H. C. F.*).—We submitted your enquiry to "Anne Amateur," who replies as follows: "Sugar Beet is still in the experimental stage for ordinary household purposes with most of us. I am 'finding out' how to use it. We found the Mangel flavour too apparent when the Sugar Beet was used alone, so are now combining and disguising it by adding other ingredients. I am amused at my recipe being described as 'elaborate'! It is not difficult to make, nor expensive. (It worked out at a fraction over 4d. a pound, allowing 9d. for the windfall Apples, and it was made in a country cottage kitchen.) The ingredients could be got at any ordinary grocer's, and the sweet fruits varied. The Plums and Dates were all we had when the Apples fell. (The grocer's motor van comes here only *once a fortnight*.)"—ED.

LIQUID MANURE OBTAINED FROM THE DRAINAGE SYSTEM OF THE HOUSE (*M. M. S.*).—Liquid manure of this nature has not found favour among gardeners for the watering of plants in consequence of the impurities with which it is commonly associated. Neither is it commonly used for helping crops during the time of growth as other liquid manures are when made from well-known fertilisers, simply because the dilution of its strength is so uncertain. It is scarcely ever of the same strength, and there is no means, as far as we know, of standardising its strength; hence the danger of its use in watering plants when in active growth. On sanitary grounds it is not always pleasant nor wise to use it in warm weather. But there is another way of using it by which the fertility of the soil is very greatly increased, and that is by applying it to the soil when it is in a dormant condition. This is especially true when it is applied to the roots of fruit trees in autumn and winter. It is safe to use it for the watering of such trees in liberal quantities at these times—say, three or four times in succession at intervals of a few weeks. Applied in this way it appreciably enriches the soil, thus producing useful food for the roots of trees for months afterwards. It is seldom too strong to apply in this way, and on sanitary grounds any nuisance arising from its use is done away with. For the growth of vegetables it may be used liberally and without dilution if applied to the soil in autumn and winter in the absence of crops. A good way is to form furrows, one after the other, at distances of 18 inches apart, and irrigate each until it is full, serving the others the same until a whole plot has been irrigated. The earth will purify and absorb to itself the manurial agents it contains, giving them back in generous measure in the shape of food for the roots of plants. It should be specially helpful in the case of a poor soil like yours. It may be applied to soils at any time provided they are bare of crops.

NAMES OF FRUIT.—*Towns End.*—1, Keswick Codlin; 2, not recognised; 3, Winter Queening; 4, Worcester Pearmain; 5, Annie Elizabeth; 6, Golden Russet; 7, Louise Bonne of Jersey; 8, Plum Monarch.——*A. J. S.*—1, Dr. Harvey; 2, Ribston Pippin.——*New Forest.*—Doyenné du Comice.——*M. R. P.*—1, Ribston Pippin (?), deformed fruit; 2, Victoria; 3, Tower of Glamis; Williams' Bon Chrétien.——*Dr. M. L. V.*—Beauty of Bath.

NAMES OF PLANTS.—*I. M. E.* Guzotia oleifera. *The Dutch Acorn.*—1, Erica ciliaris; 2 and 6, Calluna vulgaris; 3 and 4, Calluna vulgaris alba; 5, Erica [illegible]. *F. S. C.*—1, Linum angustifolium; 2, Statice latifolia; 3, too much withered to identify; 4, Rudbeckia laciniata. *N. G. H.*—The shrub with dark purple berries is Cotoneaster bacillaris, native of the Himalaya; the plant with scarlet flowers is Phygelius capensis, from South Africa. The liliaceous plant may be Gloriosa superba; and the tree of which a description is sent may be Cydonia catmayensis. If specimens of these plants could be sent we should be pleased to verify the names. *S. H. B.*—Escallonia philippiana.

GARDENERS' PROVIDENT SOCIETY.

THE monthly meeting of the United Horticultural Benefit and Provident Society was held at the Royal Horticultural Society's Hall on Monday, September 10, Mr. C. H. Curtis presiding. Three members were elected. Two members were allowed to withdraw a double amount of interest amounting to £5 14s. 6d. and two members were allowed to withdraw from their deposit accounts sums amounting to £3 9s. 5d. The Army forms notifying the deaths of Privates W. L. Creek, F. Hills, C. Bowden, H. R. Castle and A. V. Waldock were received; also those of Sergeant F. J. King and of Lance-Corporal W. J. Eagle, and the sum of £65 9s. 9d. was passed for payment to their respective nominees. One member was also assisted from the Distress Fund. The sick pay for the month on the ordinary side was £43 16s. 11d., and from January 1 to August 31, 1917, was £465 17s. 1d. Of this sum £112 6s. 8d. has been paid to members serving with the Colours. The secretary reported that the Government auditors had completed the audit of the society's books up to August 13, 1917, and produced the certificate certifying the account as correct.

National Chrysanthemum Society.—The schedule is now ready for the annual exhibition, which will be held at the London Scottish Drill Hall, Buckingham Gate, Victoria Street, London, S.W., on November 6. It may be obtained from the Secretary, Mr. Richard A. Witty, 6, Dowgate Hill, Cannon Street, London, E.C.

Cory Cup for Dahlias.—At the meeting of the Royal Horticultural Society held on September 11, the judges placed Messrs. Carter Page first in the Cory Cup Dahlia Competition. Messrs. Carter Page having, however, won the cup in 1916, and the same winner being eligible only once in three years, the cup was accordingly awarded to Messrs. Cheal and Sons, and a special award of a silver-gilt Flora medal was granted by the Council to Messrs. Carter Page and Co.

Credit for Farmers and Co-Operative Societies. Arrangements have now been concluded with the banks, under which credit will be given, on the recommendation of County Agricultural Executive Committees, for the purchase of any requirements necessary for the increase of food production, including seeds, artificial manures, working horses, machinery and implements, but not for the payment of wages. Application should be made to the Secretary of the Agricultural Executive Committee for the administrative county within which the applicant's land is situated, on a form to be obtained from the Committee. On the approval of an application by the Committee the applicant will be authorised to order what he requires, and to send the bill to the bank nominated to make the advance. The bank will settle the account and treat the amount as a special overdraft, repayable under Government guarantee, taking from the applicant a promissory note in the usual form. Overdrafts will be charged with interest at the rate of 5 per cent. per annum, and will as a rule be granted for a period of nine months, but at the expiration of that period may be renewed for a further period. Co-operative societies equally with individual applicants are eligible for the grant of credit under this scheme.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.2.*

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Golden Crown, yellow with red edge	1/-	7/-
Inglescombe Pink, pink, flushed salmon	1/6	10/6
Macrospeila, glowing crimson	10d.	6/-
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The Fawn, specially recommended	2/-	14/6

FOR OTHER VARIETIES, SEE LIST.

DARWIN TULIPS.

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Baronne de la Tonnaye, large rose	1/9	12/6
Clara Butt, pale rose pink	1/6	10/6
Donders, rich shining dark red	1/9	12/6
Erguste, fine dark heliotrope	3/-	21/-
Europe, carmine scarlet	2/3	16/-
Isis, glowing crimson-scarlet	2/6	18/-
Loveliness, charming bright rose	1/6	10/6
Madame Krelage, rosy carmine	2/-	14/6
Maiden's Blush, delicate blush-pink	1/9	12/6
Margaret, soft blush-pink	1/3	9/-
Mr. Farncombe Sanders, finest scarlet	2/-	14/6
Pride of Haarlem, large rosy crimson	1/9	12/6
Salmon King, rose, shaded salmon	1/9	12/6
Suzon, large pale rose and blush	2/6	18/-
Tac van Poortvliet, glowing salmon-scarlet	1/9	12/6
White Queen, white, slight blush at times	2/3	16/-
Fine Mixture, all colours	1/3	9/-

FOR OTHER VARIETIES, SEE LIST.

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Argent, charming semi-double	1/9	12/6
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Campanelle Rugulosus, sweet scented	1/-	7/-
C. J. Backhouse, rich orange cup	1/2	8/-
Dairymaid, white with yellow cup	1/6	10/6
Emperor, best yellow trumpet	1/2	8/-
Fairy Queen, pure white flower	2/6	18/
Golden Spur, early yellow trumpet	1/-	7/-
Grandee, good late, bicolor	1/-	7/
Horsfieldi, popular bicolor	1/2	8/-
Leonie, most reliable	1/6	10/6
Lulworth, good orange cup	1/6	10/6
Mrs. Langtry, best cheap Leedsii	1/2	8/
Obvallaris, early yellow trumpet	1/3	9/-
Oriflamme, white with bright red cup	1/6	10/6
Pheasant Eye, useful for late flowers	6d.	3/-
Poeticus Ornatus, good for pots or vases	7d.	4/-
Princeps, good cheap daffodil	9d.	5/-
Seagull, white with pale yellow cup	1/3	9/-
Sir Watkin, the giant Incomparabilis	1/-	7/-
Victoria, good bicolor	1/9	12/6
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FOR OTHER VARIETIES, SEE LIST.

MISCELLANEOUS.

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Anemone, Giant French mixed	1/-	7/-
Anemone, Fulgens	1/3	9/-
Bluebells	6d.	4/-
Chionodoxa, light or dark varieties	1/-	7/-
Grape Hyacinth, Heavenly Blue	1/-	7/-
Ixias, finest mixed	8d.	4/-
Lachenalia, Nelsoni	4/-	30/-
Ornithogalum, Umbellatum	8d.	4/-
Snowdrops, finest single	9d.	4/6
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EXPRESS (Scotch)	13/6	7/-	3/9	2/-
,, (Lincs)	12/-	6/6	3/3	1/9
LLEWELLYN (Lincs.)	12/-	6/3	3/3	1/9
B. QUEEN (Scotch)	10/-	5/3	2/9	1/6
,, (Lincs.)	9/3	4/9	2/6	1/4
PIONEER (Scotch)	13/-	6/9	3/6	1/9
IMMUNE VARIETIES.				
KING GEORGE (Scotch)	11/-	5/9	3/-	1/6
When sprouted can be lifted as early as Express or Epicure.				
GREAT SCOT (Scotch)	11/-	5/9	3/-	1/6
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Nice even size, all tubers over three inches in diameter kept out. A very special offer, as this variety produces very few seed size tubers.				
THE ALLY (Scotch)	12/6	6/6	3/6	2/-
,, ,, (Yorks.)	12/6	6/6	3/6	2/-
Carriage up to 50 miles	1/4	8d.	7d.	7d.
,, ,, 100 ,,	1/11	1/-	8d.	7d.
,, ,, 200 ,,	2/6	1/4	11d.	7d.
,, Over 200 ,,	3/1	1/8	1/-	7d.

Other Immune Varieties also Maincrop Sorts will be available later. Send Stamp for list when ready.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

THOSE poultry-keepers who trap-nest their pullets throughout the next season with a view to ascertaining the best producers will lay a sound foundation for the 1919 breeding season. Their breeding pens in that year will contain hens that have proved their value, when pullets, as regards laying. But what of the 1918 breeding season?

1916 Hens Needed.—Those who intend carrying out my suggestion of "pullets for eggs and hens for chicks" will need sufficient 1916-hatched hens for use in the breeding pens next spring. These adults will be allowed to *mark time* during the coming winter so that they will reserve their energy. They will not be force-fed for eggs or rushed into laying condition, since the owner will rely upon his stock of 1917-hatched pullets for winter eggs. It will be seen at once that it is only necessary for the poultry-keeper to adopt an approved system and remain loyal to it each season. There is no need to carry over too many adult hens for breeding so long as there are sufficient on hand when mating-up time comes round. The person who makes his plans well ahead will not carry too many or too few breeding birds. Winter eggs will be his first consideration, and he cannot have too many young pullets for this object. The few "best" hens will be slowly moulted out and be wintered ready for breeding activities the next spring.

The 1918 Chickens.—Many poultry-keepers fail in disposing of all their adult hens prior to the moult, thereby jeopardising their breeding plans the next year. The use of pullets for breeding may be quite in order now and then, but it is inadvisable as a practice. Hatchability and rearability are weakened by the continual use of pullets as breeders. Any reader who has only 1917-hatched pullets on hand should take early steps to procure a few 1916-hatched hens, so that the former can be retained for laying only during their first year, and the latter used in the breeding pens next spring. At this time he will not find it difficult to obtain adult hens, but I strongly recommend a reliable breeder being selected, so that the correct age of the birds can be guaranteed. A heavy stock of such hens is not necessary so long as there are a few available next spring. Subsequently, as each season comes round, the owner will find under this scheme that he has not only laying stock, but also breeding birds, which he can handle according to the object in view.

Are Hens Unprofitable?—The usual plan is to keep the head of poultry equally divided between pullets and hens. While I favour the former being in the majority, I insist on sufficient of the latter being kept on for breeding. I am against the owner who carries on too many hens. Rather is it advisable to retain the select few, and if trap-nests are installed the poultry-keeper will be aided in his choice. Having placed all his pullets into their winter quarters, let him trap-nest them during, if possible, the entire year—ay, October to September. When the moulting-time comes round he can examine his record-sheets and continue the trap-nesting of only those which have the best egg-totals, because these will be reserved for his breeding pens the next spring. All pullets below the average will be moulted out normally and brought on to lay in time to contribute their quota of winter eggs. The next summer they can be disposed of. Any very inferior layers can be marketed before the moult takes place.

Trap-Nest the Breeders.—Even the breeding stock of adult hens should be trap-nested. I am not in favour of the retaining of hens after their second season of laying as a *practice*, but agree with the exceptions. Where the owner does not carry out any system of trapping he will be ill-advised to keep hens beyond their second year of laying. Using the trap-nest as my "detective," however, I should keep on those few hens which excelled in certain merits. If, for instance, I was endeavouring to breed *broodiness* out of my strain, I should retain any hen which did not go broody during her first two seasons, and I should make full use of her for breeding, and also her progeny. Again, if I were paying strict attention to the size of egg, I should retain any individual hen noted for exceedingly large and beautifully coloured eggs. Such individuals I might use expressly for the purpose of obtaining from them a few breeding cockerels which would be likely to inherit the splendid merits of their mothers and hand the same on to their progeny.

Individual Points of Merit.—The trap-nest will reveal many points of merit peculiar to certain hens and their offspring. One female may stand out for the percentage of pullets she throws, and another for the number of cockerels. The owner would, naturally, make full use of the

WHITE LEGHORN PULLET.

Reared on the Lingart dry mash, this pullet after ten months of laying has exceeded the 200-egg mark. The property of Mr. Jon. Collinson, Lingart Poultry Farm, Barnacre, Garstang, who trap-nests over 1,000 birds annually.

former as against the latter, and by careful breeding he would endeavour to maintain the pullet-throwing merits in his strain. Constitution, naturally, plays an all-important part in successful poultry-keeping, and if I were carrying out trap-nesting thoroughly I should place much stress on the health of the individual. In conjunction with the recording of the eggs laid I should from the start enter on the sheets all ailments. A kind of sick-list would be necessary, and when a layer went sick the ailment would be entered against her and the date of both the outbreak and effectual cure. If, when selecting the hens for the breeding pens, my accounts proved that a certain hen had been ailing on and off, her services would be disposed of.

Watch for Ailments.—Where such a sick-list is kept, the owner must distinguish between the various ailments. Any outbreaks due solely to the bad management of the owner must be credited against the latter rather than the hen. Again, such ailments as roup will score more heavily against a bird than an ordinary cold. A schedule can even be drawn up to advantage, whereon will be written those more serious ills which disqualify a hen from the breeding pens altogether. Such plans of breeding may seem too troublesome to many, but that is no reason why they should not be followed more or less by all in a position to spare the time and labour. As make-weight there is the additional interest, which is of quite an absorbing kind. It has always been said of the Britisher that he is never happier than when striving to breed for an ideal that is difficult to obtain. And this is very near the truth.

Incubators as Detectives.—The incubator will prove another splendid detective, helped by the trap-nest. Each egg incubated will be specially marked so that the layer can be traced. The resultant chick will be marked in some way, whether by leg-band or toe-punch, and if a batch of chicks from a certain pen give trouble from heavy mortality, the male at the head will be suspected and removed. Again, if from a certain pen the chicks are strong except those from a particular hen, she will be removed. Special rearing accounts will be necessary, and on the sheets will be recorded all ailments and deaths, also the causes of the latter.

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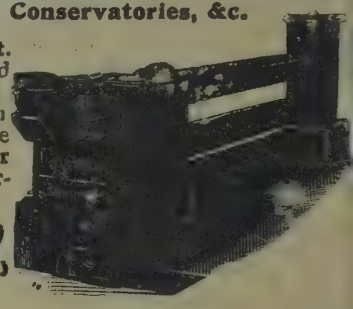

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are famously fibrous rooted; tough as whip-cord; with a constitution like iron. These factors ensure success no matter where the Roses are planted.

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24 best and most popular roses for general purposes.

A splendid assortment. **15/6** Carriage paid.

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La France (ht), rose - - 9d.
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Lady Pirrie (ht). apricot - 10d.
Lady Ashtown (ht),deep pk. 9d.
Mme.A.Chatenay (ht),sal.pk. 9d.
Mme.C. Lutaud (ht),yel.rose 1/-
Mme.Ed.Herriot,prawn red 10d.
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12 most vigorous, hardy, and generally satisfactory.

Deliciously tea scented. **8/9** Carriage paid.

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Mme. Constant Soupert,yel. 1/-
Mme.Jules Gravereaux,yel. 11d.
Mme. Hoste, pale lemon - 10d.
MissA.deRothschild,cit.yel. 10d.
MollySharmanCrawford,w. 10d.
Mrs. Edward Mawley, pink 10d.
Mrs. Foley Hobbs,ivory wh. 10d.
Mrs. Myles Kennedy,cream 10d.
Souv.de Pierre Notting,apr. 10d.
W. R. Smith, blush white - 10d.

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SELECTION "E."

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Immensely successful. **7/9** Carriage paid.

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George Dickson (ht), crim. 10d.
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Mme. Ed. Herriot (per),red 10d.
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Hedge Roses

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12 vigorous and hardy sorts.

Both sets together. **9/-** Carriage paid.

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Blush Rambler (Poly.),blush 11d.
Excelsa (W.), scarlet - - 11d.
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Felicite-et-Perpetue, cream 11d.
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Lady Waterlow (ht),salmon 11d.
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Tall Bedding Roses

SELECTION "J."

12 vigorous sorts, may be pegged down or grown natural.

Charming colouring. **7/9** Carriage paid.

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Gus. Grunerwald (ht),carm 10d.
Hugh Dickson (hp),crimson 8d.
LadyHilingdon (t),apri.-yel. 10d.
La Tosca (ht), silvery pink 10d.
Mme. A. Chatenay,sal.pink 9d.
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Mrs. R. G. S. Crawford,pink 8d.
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SELECTION "M."

12 free-flowering roses for garden and indoor decoration.

Abundance of bloom. **8/3** Carriage paid.

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Genl.McArthur,bright scar. 10d.
Gruss an Teplitz, crimson - 9d.
HarryKirk,deep sulphuryel. 10d.
Killarney, pink - - - 10d.
Mme. Abel Chatenay,sal.pk. 9d.
Mme.JulesGrolez,bright rose 9d.
Mme. Ravary, pale orange - 9d.
Rayon d'Or,deep orange cad. 1/-
Richmond, pure red scarlet 10d.

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Meg Merriles, bright crim. 10d.
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G. C. Waud (ht),orange ver. 10d.
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Mme. Ed. Herriot, red - 10d.
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F. K. Druschki (hp), white 10d.
H. F. Richardson (ht),crim. 10d.
Hugh Dickson (hp),crimson 8d.
Lady Ashtown (hp),deep pk. 9d.
Lyons Rose (ht),shrimp pk. 10d.
Mme.A.Chatenay (ht),sal.pk. 9d.
Mme. Ed. Herriot, red - 10d.
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Zephirine Drouhin,carmine 11d.

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12 newer sorts, all gold medallists but two.

Creme de la creme. **9/-** Carriage paid.

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G. C. Waud (ht),orange ver. 10d.
LadyPirrie (ht),coppery-sal. 10d.
LeslieHolland (ht),vermilion 10d.
Mabel Drew (ht), cream - 10d.
Mme.E.Herriot (per.)pr.red 10d.
M.de Sinety (ht),gold bronze 1/-
Mrs. A. Carnegie (ht),white 10d.
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12 roses of bushy habit, recommended for beds.

About 1ft. in height. **8/6** Carriage paid.

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6 roses suitable for trellis, pillars, arches, pergolas, &c.

All very vigorous. **4/9** Carriage paid.

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Hiawatha (cl.,P.), crim.wh. 11d.

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24 specially-selected varieties, superb form, grand colour.

Assured prize winners. **15/6** Carriage paid.

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Dean Hole (ht), silvery rose 10d.
Earlof Gosford (ht),dk.crim. 10d.
Ethel Malcolm (ht),ivory w. 10d.
Gl.deC.Guinoisseau (hp),ver. 8d.
GeorgeDickson (ht),vel.crim. 10d.
Hugh Dickson (hp), crimson 8d.
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Jonkheer J.L.Mock (ht),car. 10d.
Leslie Holland (ht),scar.cri. 10d.
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Mrs. AndrewCarnegie (ht),w. 10d.
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UlrichBrunner (hp),cher.red 8d.

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12 chosen chiefly for their abundant delicious scent.

Colouring gorgeous. **7/9** Carriage paid.

Alfred Colomb (hp), red - 8d.
Dupuy Jamain (hp), cerise 8d.
Earlof Gosford (ht),crimson 10d.
George Dickson (ht),vel.cri. 10d.
GeneralJacqueminot (hp),cr. 8d.
Gen.McArthur (ht),crimson 10d.
Juliet (hb),old gold and red 10d.
La France (ht), rose - - 9d.
LadyAlice Stanley (ht),pink 10d.
Mme. Ed. Herriot (per),red 10d.
Mrs.JohnLaing (hp),rosy pk. 8d.
Ulrich Brunner (hp),cher.red 8d.

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SELECTION "F."

12 charmingly coloured and daintily formed in bud.

Last well when cut. **8/6** Carriage paid.

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LadyRoberts (t),reddishapri. 10d.
Liberty (t), velvety crimson 9d.
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Mme. Jean Dupuy (ht),rose 10d.
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All best sorts. Strong trees. **18/6** Exceptional value. Carriage paid.

1 Bramley's Seedling Apple, cooker.
1 Lord Suffield Apple, cooker.
1 James Grieve Apple,dessert.
1 Cox's Orange Pippin, dessert.
1 Louise Bonne Pear, cook or eat.
1 The Czar Plum, cooker or dessert.
1 Victoria Plum, cooker or dessert.
1 Morello Cherry, cooker.
1 Loganberry, for tarts or jam.
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4 Whinham's Industry Gooseberry.
12 Superlative Raspberry, the best.

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1 Dropmore Alkanet, 4ft., gentian blue.
2 Colwall Michaelmas Daisy, 4ft., lilac.
3 Teersteeg Marguerite,2ft.,snow white.
4 Hybrid Larkspur, 5ft., violet, purple.
5 Ballard MichaelmasDaisy,3ft., mauve.
6 False Dragon's-head, 5ft., carmine.
7 Hybrid Larkspur, 4ft., sky blue.
8 St.Egwin MichaelmasDaisy,3ft., pink.
9 Red Elecampane, 5ft.,crimson,bronze.
10 Scarlet Campion, 3ft., geranium red.
11 Blue Lupin, 4ft., magnificent blue.
12 White Peach-leaved Bellflower, 2ft.
13 Oriental Poppy, 3ft., salmon pink.
14 White Lupin, 4ft., purest white.
15 Gauze Flower, Gypsophila, 3ft.,white.
16 Tree Lupin, 4ft., yellow, fragrant.
17 Siberian Iris, 3ft., rich blue.
18 Fire Flower or Pyrethrum, 1½ft.
19 Showy Fleabane, 1½ft., mauve.
20 Hybrid Columbine, 2ft., var. colours.
21 Pink Knotweed, 6in., rosy pink.
22 Mrs. Bradshaw's Avens, 2ft., scarlet.
23 Mussin's Catmint, 1½ft., lavender.
24 Blue Peach-leaved Bellflower, 2ft.
25 Blue Perennial Flax, 1½ft.
26 Golden Marguerite, 2ft., rich yellow.
27 Beesian Mimulus, 9in., scarlet, gold.
28 Jacob's Ladder, 1ft., pale blue.
29 Gentian Speedwell, 1ft., blue.
30 Double Pyrethrum, 1½ft., var. colours.

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Spiræa, Anthony Waterer, red.
Spanish Broom, fragrant, yellow.
Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
Piptanthus, new, from China.
Giant Mock Orange, white.
Starry Daisy Bush, white.
Lavender, true fragrant sort.
Hardy Scotch Fuchsia, red.
Golden Forsythia, very choice.
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Margaret, soft blush-pink	1/3	9/-
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Pride of Haarlem, large rosy crimson	1/9	12/6
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Fine Mixture, all colours	1/3	9/-

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Emperor, best yellow trumpet	1/2	8/-
Fairy Queen, pure white flower	2/6	18/-
Golden Spur, early yellow trumpet	1/-	7/-
Grandee, good late, bicolor	1/-	7/
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FOR AUTUMN DELIVERY

Owing to the scarcity of eating potatoes in the early summer months, early varieties were dug up in unusually large quantities. The result will be a serious shortage of seed. Bees Ltd., however, have made arrangements for a much larger quantity of early sorts than usual, and owing to the shortage of labour, etc., they have decided to offer a limited quantity of Early Seed Potatoes for autumn delivery at prices which will make it very advantageous for you to buy now.

TERMS, Cash with Order. Money returned in full and carriage paid both ways if goods not satisfactory. Bags included, carriage extra. See below.

	56lbs.	28lbs.	14lbs.	7lbs.
EPICURE (Scotch)	9/3	4/9	2/6	1/4
ECLIPSE (Scotch)	10/9	5/6	3/-	1/6
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,, (Lincs)	12/-	6/6	3/3	1/9
LLEWELLYN (Lincs.)	12/-	6/3	3/3	1/9
B. QUEEN (Scotch)	10/-	5/3	2/9	1/6
,, (Lincs.)	9/3	4/9	2/6	1/4
PIONEER (Scotch)	13/-	6/9	3/6	1/9
IMMUNE VARIETIES.				
KING GEORGE (Scotch)	11/-	5/9	3/-	1/6

When sprouted can be lifted as early as Express or Epicure.

GREAT SCOT (Scotch)	11/-	5/9	3/-	1/6
,, ,, (Lincs.)	9/6	5/-	2/9	1/6

Nice even size, all tubers over three inches in diameter kept out. A very special offer, as this variety produces very few seed size tubers.

THE ALLY (Scotch)	12/6	6/6	3/6	2/-
,, ,, (Yorks.)	12/6	6/6	3/6	2/-
Carriage up to 50 miles	1/4	8d.	7d.	7d.
,, ,, 100 ,,	1/11	1/-	8d.	7d.
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,, Over 200 ,,	3/1	1/8	1/-	7d.

Other Immune Varieties also Maincrop Sorts will be available later. Send Stamp for list when ready.

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FRUIT TREES

CATALOGUE by RETURN

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GEORGE BUNYARD & CO. Ltd.
Royal Nurseries,
MAIDSTONE.

THE GARDEN.

No. 2304.—Vol. LXXXI.] [October 6, 1917.

NOTES OF THE WEEK

WHAT an excellent Tomato Bide's Recruit is proving, both under glass and in the open! It has given, and is still giving, grand crops in the open, carrying as many as six and seven large trusses to a plant. The fruits are rather small, with smooth skin and solid flesh, but of good serviceable size, averaging eight to a pound. It bids fair to outrival Sunrise, which it much resembles, and is still one of the best in cultivation. The remarkable feature of Bide's Recruit is the immense crop which each plant is capable of carrying, and for this reason it is being extensively taken up by market growers.

Allotments' Exhibition in Edinburgh.—A highly successful two days' exhibition of the produce cultivated on the allotments in the Edinburgh and Leith districts was held recently. The quality of the produce reflected very high credit on the exhibitors, many of whom had cultivated allotments or gardens for the first time. There are nearly 4,000 allotments in Edinburgh and Leith districts, and for exhibition purposes these were divided into groups. About 600 entries were made, and the competition in many classes was very close and keen. As was to be anticipated, the classes for Potatoes were strong and the quality excellent. The exhibition was opened by the Lord Provost, Sir J. Lorne Macleod, the chair being occupied by Bailie M'Arthy. Unfortunately, Councillor Macfarlane, Convener of the Public Parks Committee, was unable to attend owing to illness, but Mr. J. W. M'Hattie, the Parks Superintendent, who has taken special interest in the allotments question, was one of the company. The exhibition was largely patronised by the public and much interest was manifested in it.

An Interesting Event.—To celebrate the two hundredth anniversary of the establishment of their business, Messrs. Austin and M'Aslan, the well-known nurserymen and seedsmen of Glasgow, entertained a large company at dinner in the Trades Hall, Glasgow, on the evening of September 28. The guests included representatives of horticulture and agriculture, and the chair was occupied by Mr. A. N. Hunter, the principal of the firm. The toast of the evening, that of the firm of Austin and M'Aslan, was proposed by Lord Provost Sir Thomas Dunlop, and Mr. Hunter, in his reply, gave an interesting narrative of the career of the firm during the two centuries. Sir Robert P. Wright, the Chairman of the Board of Agriculture for Scotland, proposed the "Agricultural Seed Trade," and expressed the sentiments of the company in wishing the firm a prosperous con-

TOMATO BIDE'S RECRUIT PICKED FROM THE OPEN.

Chinese Cabbage (Pe-Tsai).—Although comparatively little known in this country, the Chinese Cabbage has been catalogued by our seedsmen for a number of years. Messrs. Robert Veitch and Son, Exeter, have catalogued this Cabbage Salad since 1912, and it was both figured and described as a vegetable of special merit in their seed catalogue for that year. Messrs. Waterer, Sons and Crisp, Limited, Bagshot, having disposed of quite a large quantity of seed of the Chinese Cabbage, have just recently obtained a fresh stock of seed; and a few days ago we noticed a large break of this salad in Messrs. James Carter and Co.'s trial ground at Raynes Park. Doubtless it is stocked by many other seedsmen, but sufficient has been said to show that it is not necessary to send out of the country in order to procure seed. The Chinese Cabbage is claimed to be of very pleasant flavour whether cooked or eaten raw as a salad, but its great failing is that it soon runs to seed. For this reason it is recommended for autumn sowing (like Endive) to come in during the winter.

Anthemis E. C. Buxton.—This is one of the best of the Camomiles and an invaluable plant for poor soils and sun-dried banks. The flowers are large, of a rich golden yellow, and borne on long, graceful stems. The habit is also good, but perhaps one of the most distinguishing features of the variety is its freedom of blooming. It bears an abundance of its welcome blossoms in unbroken succession from early June to November.

Ivy Geranium Mme. Crousse.—This good old flower holds its own among the many more recent kinds. It has the merits of freedom of bloom and of an excellent colour quality of good clear pink. It is seen to its best advantage when planted on the top of a low, dry wall as a ground covering to plants and shrubs of grey colouring. We have it like this on the brow of a wall about 2 feet high, facing west, where it revels in the full afternoon sunshine and forms a most harmonious groundwork to Lavender, Santolina and Phlomis. Wherever there is a space between these, there is a group of the Geranium, its good pink colour charmingly set off by the greys of the shrubby plants near.

The Claret Vine.—The red-leaved variety of the common Vine of Southern Europe (Vitis vinifera) is a fine thing for autumn colouring; not a bright red such as we see in the autumn tinting of Vitis Coignetiæ, but low in tone, with a subdued richness that makes it an admirable background. Just now it is beautiful on a wall as a groundwork to pink Japan Anemones, rosy Crinums and some claret-coloured Hollyhocks.

The Black Hamburgh Vine at Melchet Court, Romsey, Hants.—This Vine, which is growing in the gardens belonging to Sir Alfred and Lady Mond, occupies a house 115 feet long; 15 feet high and 16 feet wide. It is supposed to have been planted considerably over 100 years ago. The girth of its stem at the base is 2 feet 9 inches, and it has a length of permanent rod of 699 feet. Judging by the luxuriant growth it makes and the crop of Grapes it ripens annually, the roots must travel a great distance, independent of the Vine border. This year it is carrying a crop of 236 bunches of good size, both in bunch and berries, which are well coloured.

Potato Competition.—A Potato competition organised by the High Wincobank Corporation Allotments Society in connection with the offer of prizes made by Mr. E. T. Ellis was a great success.—The lifting of the crop took place on Saturday, September 22, a start being made at 6 a.m. The lifting took the whole of the day, and during that period about 2 tons of Potatoes were lifted, thanks to the energy of the working committee. The Potatoes were of excellent quality and beautifully clean; some of them were on the small side. The name of the sort (not disclosed until the end of the competition) was Great Scot. The following were the results: First prize (silver cup), won by Mr. Peter Green for a crop weighing 150lb.; second prize (book), Mr. W. Luker, for 143lb.; third prize (book), Mr. D. Betts, for 120½lb. The silver cup has to be won two years in succession before it becomes the personal property of the winner. Seven pounds of Potato seed were supplied free to each competitor by Mr. Ellis, the rule being that the seed tubers should be planted whole in not more than 30 square yards of ground.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

PEA GLORY OF DEVON.

I HAVE grown a Pea of this name for the first time this year, and as a maincrop sort it has done so excellently as to constrain these few words in its praise. Of medium height—3 feet to 3½ feet—it has answered every essential of a satisfactory kitchen Pea in being a strong grower, free bearer and of good flavour. I sometimes wonder whether some Peas get more than one name, being sent out by different firms; hence the host of varieties we have to-day. Some varieties, of course, are so obvious as to leave little doubt about their recognition.—C. TURNER.

COLOUR DESCRIPTION.

ALL lovers of the garden are greatly indebted to Mr. Engleheart for having raised "many hundreds of thousands of yellow Daffodils" of varying shades, as he tells us in his letter of September 29. If some of these had been described as green, he would have had no more cause for just protest than a man who receive as purple Aubrietia described as blue, or a purple Gladiolus described as indigo. A monopoly for calling things by their wrong names should not even be granted to the horticulturist. If such colours as lilac, mauve, violet and heliotrope be but epithets, is it not better to use an epithet than to use a—let me hasten to add—"terminological inexactitude," since this humble plea for greater accuracy in colour description is no quarrel, but a friendly suggestion thrown out to brother plant-lovers.—H. H. WARNER.

GUNNERA SCABRA IN PERTHSHIRE.

IT is always interesting to observe how some plants which are difficult to grow in certain parts of the country are happier further North than one would expect them to be. In the gardens at Aberruchill Castle, Comrie, Perthshire, are two exceedingly good plants of Gunnera scabra, and these stand the winter quite well; whereas in some of the more Southern Counties this noble foliage plant is quite difficult to grow without winter protection. Mrs. Walter Jones is a keen horticulturist, and her gardener, Mr. Robertson, a skilled craftsman, so that the Gunnera is aptly placed at Aberruchill. One good plant is by the side of the stream where it flows through the park, and is associated with Spiræas, Irises, Roses and other plants. This is a good specimen; but an even better one is to be found in a delightful wild garden in a glen where the stream rushes down from the hills. This is an exceptionally good plant of Gunnera scabra, set in the happiest surroundings, and associated with many good Lilies, Senecios, and other plants suitable for the position.—S. ARNOTT.

IS ANALYSIS NECESSARY?

IN your issue of September 22 "Land Worker" appears to be under a misconception as regards the value of an analysis of the soil. In the present state of knowledge of the subject it appears to be of more value to rely upon the results obtained by actually growing plants, rather than upon the result of an analysis which it is very difficult to interpret correctly. Russell in "Soil Conditions and Plant Growth" (1917), page 199, says "it is manifestly impossible for the chemist to make a satisfactory report on a sample of soil on the basis of analytical data only." Your article of August 11 on this question dealt very ably and fully with this point.—F. H. G.

DESSERT APPLE ST. EVERARD.

THREE "QUALITY" APPLE TREES.

ON several occasions you have praised an Apple called James Grieve, and you will do well to continue in the same strain until it is more widely known and grown. In my own garden it is the most prolific of all the Apple trees I have, the trees often being so loaded with fruit that the boughs have to be supported. With me the Apple is rather large for dessert, but is very good and juicy, and my boys in their holidays do not find it at all too big. It is a handsome Apple, yellow with crimson streaks, and is as good as it looks. But it has *not* the flavour of Cox's Orange which many catalogues attribute to it. No two varieties could be more different. Another Apple—a Russet—of first-rate quality and even less well known is St. Edmund's Pippin, which ripens a little later than James Grieve. The Arbutus *Unedo* was so called because if a man *ate one* of its fruits, he did not want another. On the same principle of nomenclature St. Edmund's Pippin might have been called Mult-edo, because when you have eaten one fruit of it you want many more. A third Apple—a recent introduction—is called after another Saint. On September 1 I walked round my garden after an absence of some months on war work, and noticed a very bright crimson Apple of medium size on a youthful cordon. The tree was labelled St. Everard, and I remembered buying it on the recommendation of a friend. As the Apple was ripe, I picked and ate it. And now I am longing to have many trees of this variety, for the Apple had the true Cox flavour, and might truthfully have been described—as to quality—as an early "Cox." Would some of your readers who have tried this Apple give others like myself the benefit of their experience? Is it hardy and a good bearer? If it is both of these, then it is quite safe to prophesy that one day there will be a St. Everard in every garden where flavour is appreciated.—H. ROLLO MEYER, *Watton Rectory, Hertford.*

APPLE ST. EVERARD.

I ENCLOSE an Apple which I think is little known and deserves to be widely cultivated. The Apple was raised at Papworth St. Everard, Hunts, and is named St. Everard. It is an abundant bearer, and better eaten fresh from the tree. I imagine it would grow much larger with a small crop.—E. HUNNYBUN, *Godmanchester.*

[It is indeed an attractive variety, worthy of extended cultivation. The fruits are ruddy crimson, with crisp, juicy flesh and of good flavour. In 1909 this variety received the high award of a first-class certificate from the Royal Horticultural Society. It is an early dessert Apple of great merit, having for its parents Cox's Orange Pippin and Margil, two of the best flavoured Apples extant. It is a September Apple, the fruits ripening much earlier than those of either of its parents.—ED.]

APPLE GLORIA MUNDI.

I DOUBT the wisdom of "Hereford" in advocating the planting of this Apple, seeing that there are such a huge number of superior sorts, not only in crop, but also in appearance. If it is necessary to slate the circumscribed rooting area to induce a tree to give a crop, I fear such advice will be difficult to follow in these days of great labour scarcity. Surely such time can be more economically spent!—E. M.

MR. GARNER'S experience with the above is unique, but allow me, as one who has known it for sixty-five years, to say it is a worthless fruit and, except for a dish for exhibition—where its size is taking—it is a bad insipid cooker, bad bearer, and quite nine out of every twelve fruits are ill formed; and I strongly advise no gardener or amateur to plant it. As regards the fancy price obtained for one fruit—when calves were sold and resold for £150 at the war auctions, which buyers attended as a spree—that is no guide; and as I have seen giant fruits on pot trees, with only one fruit on a tree, this is confirmation of my contention. Either under its own name or as Belle Dubois or Grosse de St. Clement it is a rank failure. Let planters get Newton Wonder in place of it; they will find this will buy a horse (and cart), while Gloria Mundi will not run to a bridle.—GEORGE BUNYARD, *Maidstone.*

PEAR LOUISE BONNE DE JERSEY.

FOR a small garden this Pear, grown in bush form, succeeds capitally. It is not partial to any kind of soil, provided it is given encouragement to make roots at the time of planting. Here

in deeply trenched, heavy, retentive soil it thrives grafted on the Quince. With a system of close summer pruning it is surprising how the growth can be limited and still give a full crop of handsome fruit. On a wall, too, this Pear succeeds admirably. As far back as 1788 this Pear was raised at Avranches by M. Longueval. Without a doubt it is still one of the most popular varieties in use at the end of September or in October.—E. M., *Swanmore.*

THE BROAD-LEAVED PLANTAIN.

LIKE most of your readers, I have always regarded this as a particularly horrid weed. There is a large patch of it in my orchard where the mortar was mixed when the bungalow was a-building; but the "ancient," aged seventy-eight, who is now my outdoor assistant, was scything it down the other day, and *he* regarded it with respect, for, said he, "t' seeds be good for t' chicken, an' t' leaves be wunnerful good feed fer t' rabbits when they be a bit withery, not lesh" (? lush). This recalled to my memory that more than fifty years ago in Hackney they used to hawk bunches of ripe Plantain seed and of Groundsel at 1d. a bunch, for the canaries, which nearly everyone there used to keep then.—ANNE AMATEUR.

DRYING POTATOES FOR STORING

IS Mr. L. M. Marshall correct in urging that Potatoes should be dry? Depend upon it, when Potatoes are to be clamped, the sooner they are gathered up for the purpose the better, and in a season like this, when there is much rain, drying may be out of the question. In the past, people have been tempted to wash their Potatoes before storing, and have had cause to regret it. Never mind the dirt; and in damp weather, on sticky land, dirty tubers are unavoidable. So long as there is no disease, store them damp and dirty. A little lime dusted among them will do wonders towards cleaning them, but never be tempted to wash Potatoes for storing, and whether they are to be clamped or stored in a shed, do not fret about drying. Of course, if they are to be stored in bags, drying must be done, but do not leave Potatoes on the ground for that purpose.—T. A. W.

PLANTING POTATOES WITH A DIBBER.

I HAVE read the correspondence on the above subject in recent issues of THE GARDEN with great interest. Your various correspondents seem to think that the choice of method lies between the use of the spade and the dibber. As I practise a method different from either, I may perhaps be allowed to explain it here. But first a remark or two about dibber planting. Although I have never adopted the method myself, I have had the opportunity of seeing the results of it from time to time—the latest opportunity this season—in one garden for well-nigh sixty years, my father and brother in succession having practised no other method for sixty-three consecutive years. Although the soil in the garden referred to is a good holding loam, the results have—apart from other contingencies—always been quite satisfactory. My own method, practised for over forty years, is to dig and manure the ground in the autumn, leaving it rough. In the spring, previous to planting, the ground is forked over with a digging fork. The line is then stretched in position and a drill is drawn with the draw hoe, as for Beans, &c., only deeper. Into this drill some wood-ashes or other suitable Potato manure is sown, and then the sets are planted. The drills are filled in by drawing the feet along the surface of the ground, keeping the toes well turned out. This method leaves the soil quite loose, and is more expeditious than either of the other ways already referred to.—CALEDONIA.

POTATO MIDLOTHIAN EARLY.

WELL might the Editor exclaim "almost marvellous" in connection with Mr. A. R. Goodwin's crop of 6½cwt. from 84 square yards of ground. Actually, this is well under 3 rods, so that Mr. Goodwin has dug something like 2½cwt., viz., 5 bushels, of Potatoes per rod, 800 bushels, or 20 tons, to the acre. Surely "some" crop; and it must be in keeping with what a friend of mine at Hythe has been digging of the same variety. Being home recently, my friend ran up to Orpington to see me, and together we dug my little patch of Eclipse, which panned out at 1½cwt. to the rod, which I thought tip-top for an early; but my friend calculated that from the same length of row, *i.e.*, about 20 feet, he had been averaging a bushel, by which I calculated he had lifted from his field over 2cwt. per rod. Midlothian Early can crop, I know, for I have seen Mr. Scarlett in the past lift roots approaching 6lb. of tubers. But, as a general rule, earlies are not classed as great croppers, although, maybe, this is largely owing to lifting before the crop has fully developed. May Queen in its early days was a gigantic cropper on some of the sandy Hythe soils; indeed, I have known it to come up so big and coarse that the grower could not find a sale for the tubers except among fried fish and chip Potato merchants. Incidentally, I assume Mr. Goodwin's crop was well-nigh finished if not actually ripe, and this would tend to prove that earlies, if the locality suits them, will crop as well as maincrops if given sufficient room. This season earlies made unusually heavy tops. Allowing that earlies will crop, why bother about maincrops, seeing that earlies more or less escape blight and can be lifted early so that other crops may follow? It is a question worth pondering over.—T. A. W.

POTATOES IN WORCESTERSHIRE.

THE note in THE GARDEN for September 15, page 383, by "C. P." is very interesting. Practically the same condition of things exists here in Worcestershire with regard to the Potato crop. I notice, too, in my travels in Warwickshire, Shropshire and Oxfordshire that crops are badly attacked by disease. In this county "for miles the Potato haulms are standing gaunt and leafless, whether sprayed or not"—and this with the exception of one field that was not sprayed, but which was planted in May, and the haulm has only just begun to decay. The other fields, whether sprayed three times, twice, once, or not at all, are badly attacked by disease. Referring to the editorial note in the same issue with regard to the cutting off of tops when the leaves first become infected, I may say that the general belief about here is that the operation does check the disease to some extent, especially if all the tops are gathered up and burnt. I do not practise it now, for I dig the crops soon after they show signs of "going off." But some years ago, when I had rather a big crop of Potatoes on heavy land, I used to cut off the haulms, because it was not always possible to dig the tubers at just the right time. I quite believe that the results were beneficial, although, of course, I found some bad tubers. One wet season I remember cutting the tops off half a field, the other half being allowed to remain. Then there set in a fortnight's rain, and we could not work on our heavy land. But when we were again able to resume our Potato lifting we found that that portion of the crop which had not had the tops cut off was fully 50 per cent. worse than the other portion, through the spread of disease to the tubers. This may have been an isolated instance, but, generally speaking, I think it is a good plan to carefully remove diseased parts when they first occur, and to burn them. As to the results this season of spraying with Bordeaux or Burgundy mixture, there appear to be none.—L. M. M.

THE DUTCH BEAN.

THOSE people who availed themselves of the offer of the Dutch Bean by the Royal Horticultural Society will have no cause to regret it. I saw it stated in a horticultural trade paper that it was nothing new; in fact, that it was a well-known stock article. I do not contradict this, but am content to say that I have no previous knowledge of the Bean, and having to-day cooked and tasted it I can pronounce it of really excellent and first-class table quality. It is very mealy, succulent, and of full, rich flavour, excelling anything of the Haricot type that I have previously tasted. As grown here it also possesses all the most meritorious qualities of a garden vegetable, every seed germinating, and the growth and crop being all that one could possibly desire. At a time like this, when, owing to the high prices of meats and other staple articles of food, vegetables of palatable and nutritious qualities are in demand, the Dutch Bean will be counted here as one of the most useful things that we have grown, and I recommend it, without any reservation, as a sterling good thing.—F. HERBERT CHAPMAN, *Rye.*

PEACHES AND NECTARINES OUTSIDE.

SELDOM, if ever, do I remember such magnificent crops in the open as those of this year. In spite of the dull, sunless season the fruits are large and richly coloured. The notes by "E. M." in your issue for September 8 are most interesting, and I fully agree with his remarks on the two varieties named. Dymond is a fine all-round Peach, both inside and out. Peregrine was remarkably good here, but a little lacking in flavour. Amsden June was specially fine, and ripened its fruit in July; one tree 14 feet by 7 feet carried no fewer than twenty dozen good fruits. Grosse Mignonne, 14 feet by 8 feet, has seventeen dozen grand fruits, and is one of the finest. Of Nectarines, Lord Napier, Rivers' Orange and Violette Hâtive are among the best, all bearing large quantities of fruit and finely finished. It is pleasant to be able to record such successful crops after last year's miserable failure.—EDWIN BECKETT, *Elstree.*

AN IDEAL TULIP LIST.

AS one of the committee who are responsible for the garden classification of Tulips in the Royal Horticultural Society's Tulip Report, may I say how glad I am to see that it has already borne fruit in the 1917 bulb catalogue of Messrs. Hogg and Robertson of Dublin. *Every variety* there offered for sale is pigeon-holed into its proper section according to the arrangement in the above Report. Hence it is a much easier and more satisfactory list to select from than others which ignore the Royal Horticultural Society's brochure altogether or only partly go by it. I hope for the sake of the gardening public that all firms will "line up" next season with their catalogue arrangement and also invariably adopt the names given in that Report. This I again urge every Tulip lover to buy. Everyone should send 2s. 11d. to the Royal Horticultural Society, Vincent Square, and get a copy of this useful work.—JOSEPH JACOB.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

MORE ABOUT DUCKWEED

AN ATTEMPT TO MAKE AN EFFECTIVE CLEARANCE OF A TROUBLESOME WATERWEED.

WE have made a skimmer for the Duckweed as suggested by you (page 339), and it is such a success that I thought a rough sketch of it might be of service to other readers. I say "we," but really—apart from cutting the wood—my *placens uxor* did all the work, and must, therefore, have all the credit for this handy contrivance.

The pole is a straight piece of "green" Yew 7 feet 3 inches in length, and the triangular cross-pieces, which are of split Hazel, are nailed to it, and they are also fastened to each other at the ends of the triangle (A and B). The coarse gauze wire (of which I send you a sample) is tacked on to the flat (or split) sides of these cross-pieces, and is quite taut. This wire is made by Messrs. John Staniar and Co. of the Manchester Wire Works, and is very strong and durable. Both sides of the skimmer can be used, but I find that the opposite side to that on which the wire is fastened is the best for the purpose, as the Duckweed cannot float away when once it is inside the shallow net formed by the cross-pieces. The September baby took great interest in the proceedings, and made numerous interrogatories until she was told that it was being made "to skim the cream off the pool." To this came the prompt reply: "Yes, Mummy, the *green* cream"!

With this rough-and-ready contrivance I have caught buckets of Duckweed, to say nothing of sundry tadpoles, lots of little water-beetles, and one *monster* of that ilk whose appearance was really quite alarming. He seemed so indignant at being put in a bucket for closer examination that I could not help being reminded of two lines in *Punch's* "Elegy on the Porpoise, By the Sturgeon," which appears in the "Life of Frank Buckland":

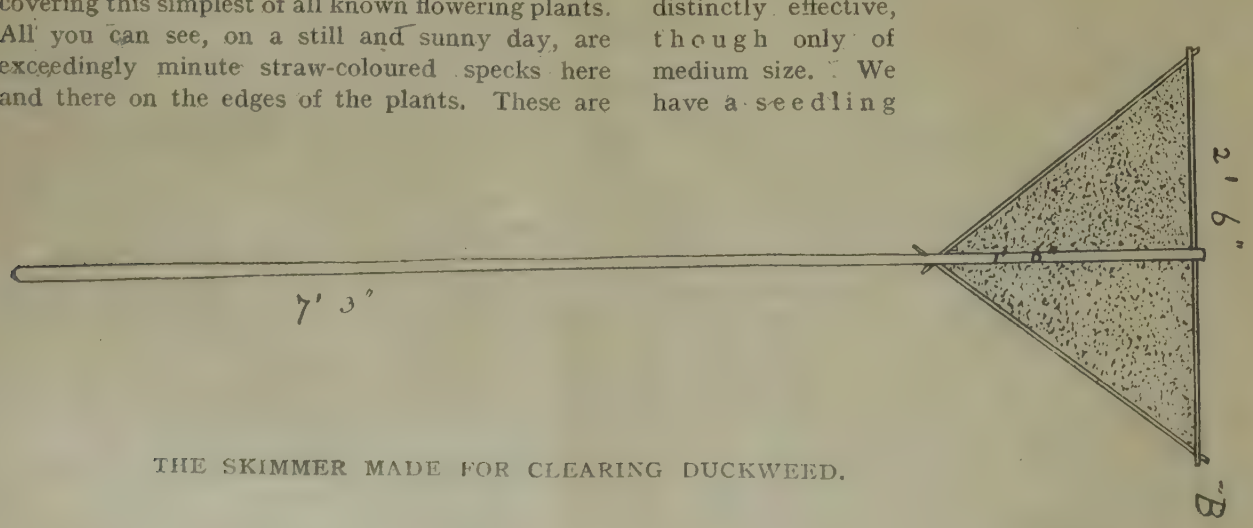
> "Is a king like me, I humbly ask, to be put in a trumpery puddle,
> For fellows to walk about and spy, and talk zoological muddle?"

By the way, as Duckweed is an annual, can any one tell me what becomes of the seed? Does it float on the surface of the pond all the winter and germinate in the spring, or does it sink to the bottom of the pool and then rise to the surface of the water and germinate?

So many people do not even know that Duckweed flowers that I send you a little sketch of Lemna trisulca, the Three-lobed Duck-meat or Furrowed Duckweed, which is equally as troublesome as the small Duckweed, and a stronger grower. They both flower in June and July, but unless you look carefully you will not succeed in discovering this simplest of all known flowering plants. All you can see, on a still and sunny day, are exceedingly minute straw-coloured specks here and there on the edges of the plants. These are the anthers, which come from a marginal slit (Fig. 2.*a*) at the side of the plants, and, although so minute, their sparkling appearance readily catches the eye. Under a microscope the whole plant is very interesting, and the secret of its flowering stands revealed. If you widen this slit with a dissecting forceps you will be able to extract the blossom. This consists (Fig. 3) of a transparent membranous bag, shaped like a pitcher and split on one side; within it are the two stamens with two-celled anthers, and a roundish ovary with a short, thick style and a flat, expanded stigma. The fruit (Fig. 4) contains but one cell, in which are one to five seeds (Fig. 5.)

Its peculiar habit of covering pools and ditches with its pellucid green fronds was evidently well known both to Gerarde and Parkinson, for the former calls it Hederula aquatica and the latter in his "Theatre of Botany" refers to it as Ranunculus hederaceus aquaticus. Bentham tells us that Duckweed has no distinct stems or real leaves, "but consists of small, leaflike fronds, either separate, or cohering two or three together by their edges, emitting, in most species, one or more fibres from their under surface into the water, and multiplying by similar fronds growing out of their edges. Flowers very rare." From this it is plain that propagation is effected not so much by seed as by prolification, and the use of the skimmer I have described is probably the best means of counteracting what, to water gardeners, is a great nuisance.

Kidderminster. ARTHUR R. GOODWIN.



THE SKIMMER MADE FOR CLEARING DUCKWEED.

MICHAELMAS DAISY NOTES

THE season of the perennial Asters is rapidly slipping away, and at the time of writing (early October) one can take stock of the greater number of varieties and their value this season. Here we always have novelties as well as standard varieties of hardy plants, and the Michaelmas Daisies are no exception to the rule. Of standard varieties we still find a place for the old Coombefishacre, as it makes such a shapely bush and flowers from base to crown. The colour is not unpleasing (perhaps midway between lavender and pink), and with the brownish centres the blossoms are distinctly effective, though only of medium size. We have a seedling from Coombefishacre under the varietal name of Daphne, which perpetuates the beautiful habit of its parent with the advantage of larger flowers, a purer pink colour, and the same quaint bronzy centres. This will make a very useful decorative subject.

1, Plants of Furrowed Duckweed (Lemna trisulca) floating on water; 2, A plant magnified, and in flower at "a."; 3, A flower extracted from the slit in which it is laid—"a," the membranous bag; 4, A fruit; 5, A seed.

St. Egwin, so often mentioned in THE GARDEN, has been very good this season. As it makes a neat bush and is very floriferous, it should maintain its position as a garden favourite for some time to come.

Another variety which may come to the forefront is Rosalind. This is a pretty pink having a neat, bushy habit, with hosts of blossoms which are dainty and refined in formation, the petals being narrower and longer than those of St. Egwin.

One of our most striking Michaelmas Daisies is Autumn Beauty; a tall, tapering variety which grows 6 feet high and over, and clothed from the crown of its tapering spires to their base with nicely spaced sprays of blossom. It is a large-flowered pale blue, with bright yellow centres to the flowers. Autumn Beauty is certainly one of the most striking flowers in the garden during the autumn days.

I had not intended to speak of Blue Bird, but it is difficult to write of Michaelmas Daisies without mentioning it. This variety, which is now obtainable from one of our leading hardy plant firms, is glorious in October. Its beautiful metallic blue, rich and clear, and the golden centres of its exquisitely placed blossoms, together with its ideal habit of growth, will make it a general favourite. For late flowering in the garden it is a plant to conjure with, and in my opinion there is no other Michaelmas Daisy which can compete with it at this season.

Climax is good and larger in individual blossoms. Blue Bird, however, beats it in colour and in

habit, and many readers of THE GARDEN will endorse this opinion in the near future.

I have noted these varieties as the interests of the gardening enthusiast are turned towards new and little-known meritorious plants.

Finally, let me commend also the free use of the fine blue purple species grandiflorus, which is so grand for its late-flowering habit and for its neat garden effect.

Little Holland, Essex. P. S. HAYWARD.

Notes on Breaking Up Grass Land

REASONS FOR TILLING MORE LAND.

Area under Grass and Arable Land.—From a pamphlet issued by the Board of Agriculture and Fisheries, we learn that there are in England and Wales about 16 million acres of land permanently under grass, and 11 million acres of arable land. About 2½ million acres of the latter are temporarily under grass, so that at the end of 1916 there were more than 2 acres under grass for every acre of tillage land in England and Wales.

Reasons for Breaking Up Grass.—On the average of the whole of the United Kingdom, that portion of the land which is under tillage provides food for about four times as many persons per 100 acres as the portion under grass. It is obvious, therefore, that an immediate method of increasing the food supply is to till more land.

The objections urged against the ploughing up of grass are that it is uneconomical, and so risky that in 1918 less, not more, food may result from the ploughing up of pastures and meadows.

It is admitted that at the prices ruling before the war it would have been uneconomical to break up any very large area of grass land. At present prices much might profitably be tilled, and the object of the Corn Production Act is to secure at least a fair return to those farmers who plough out the land scheduled for breaking up by Agricultural Executive Committees.

The breaking up of grass land during the past winter and spring has been very successful. *Four out of five of those who have reported to the Board have secured satisfactory crops.*

In most cases an Oat crop has been sown on newly ploughed land, either the ordinary White Oat favoured in the district or, in many cases, the Black Tartarian Oat. Reports of successful results with the following crops have also been received: Wheat (autumn and spring), Barley, Beans, Peas, Potatoes, Mangels, Mustard, Rape, Turnips and Linseed.

The Report issued by the Board of Agriculture on the above important question is timely, and should prove of great assistance to all those who contemplate such work during the coming season.

I have read with keen interest the experience and results of people in various parts of the country, which, on the whole, are extremely satisfactory, and tend to confirm my opinion that when such work is properly performed, good returns may be looked for. I do not pretend to be an authority on corn growing, but my interest centres chiefly on that relating to Potatoes and other vegetables.

When the question of turning a large portion of our pasture to more profitable use was first launched, all kinds of objections were put forth, and much sympathy was bestowed on those who had the temerity to dare such a course. Wireworms, leather-jackets and all kinds of pests were to ruin all their efforts, especially for the first year, on such ground. During the past few weeks I have carefully noted the results from newly broken up ground, and in nearly every case the cultivators are more than satisfied, and are well recompensed for their efforts. This applies more especially to allotment-holders and small-holders, and in all cases where deep tillage has been practised for other crops than Potatoes.

I am not quite in agreement with the advice given that poor pasture should not be chosen at this time for such work. On the contrary, I would much more favour such land being brought under the influence of the plough and spade rather than tamper with our better pasture. In such cases it is, of course, most essential that some form of drainage be carried out.

My own experience during the past year may prove of interest. Probably the worst piece of pasture on the estate was selected, this being badly drained and abounding with tussock grass. The work was not commenced before the end of January; consequently there was no time for draining, which would otherwise have been done. The whole of the rough grass was first cut up and burnt, the refuse (a most valuable item in Potato culture) being carefully preserved for use when planting-time came round. The land was then ploughed 5 inches in depth, cross ploughed, thoroughly harrowed and rolled, after which a dressing of fresh lime was applied. The land in question is a very heavy loam with about 4 inches of soil. A very small quantity of London manure, with the burnt ashes, mixed together, was placed in the rows at the time of planting. The crop is quite satisfactory.

I am not in favour of burying the turf and subsoiling, as is so often recommended. Where wireworm abounds it is far better to deal with the enemy on the surface. The constant stirring up of the soil in some form is the most effectual way of dealing with it, and the birds during spring will see to it that they will do their part in assisting; while, on the other hand, when the turf is covered over to the depth of from 6 inches to 8 inches, the pests are there waiting to devour any vegetation which may be planted or sown. Most of the successful reports confirm this.

I had the honour and pleasure last spring to inspect a large quantity of waste Government land near Aldershot. Up to the time of my visit there were only about 21 acres under cultivation; to-day there are 351 acres so utilised. The land looked practically hopeless for cultivation, especially for the first year. It was covered with Heath, rough pasture and rubbish. A very large portion of the land is now planted with Potatoes and other useful vegetables. Potatoes that have been lifted have yielded 13 tons per acre, a magnificent sample in every way. A good deal of the land has been given over to the troops to cultivate. This year a vegetable exhibition was held at Aldershot on August 25, and probably a finer lot of vegetables has seldom been seen. When I say that there were no fewer than fifty-three collections of eight kinds of vegetables, and in other cases nearly seventy entries in some of the classes, one will realise the splendid results obtained by these men from what would otherwise have been derelict ground. Their Majesties the King and Queen, who graciously visited this exhibition, were deeply interested in the produce staged for competition, as well as that staged honorarily by the G.O.C.-in-C., Aldershot; and Major F. R. Harding Newman, the Chief Land Agent for the Aldershot Command, is indeed to be congratulated on such a fine achievement.

Elstree. EDWIN BECKETT.

A USEFUL AND ORNAMENTAL FLOWER BED.

A War-time Flower Bed

I HAVE a very beautiful bed on my lawn—a "War-time bed"—composed of vegetables instead of the usual flowers. It contains Leeks, with their Lily-like leaves; Carrots, with their feathery plumes; and glorious red Beet to complete the picture. The only other growth is some self-sown Violas of various colours which Nature has mingled with them. So beautiful was the bed—or rather is, for it is not yet on the wane—that I had it photographed and thought you would like to have it reproduced for THE GARDEN.

(Miss) H. C. PHILBRICK

The Cedars, Halstead, Essex.

The Lily Season in Southern Scotland

BY THE REV. DAVID R. WILLIAMSON.

DURING the present season, now rapidly drawing to a close, Oriental and American Lilies have in many regions been seen at their best. They experienced the effects of drought to some realisable extent in the beginning of the season; but during the last two months they have been greatly stimulated by heavy rains, superinduced by electric atmospheric conditions. Never have the finest forms of Lilium longiflorum, and especially the varieties entitled Wilsonii and giganteum, been more radiantly beautiful here at Kirk House in Kirkmaiden, whether in the sunny terraced garden, where Roses luxuriate, or in a miniature conservatory.

In Logan Gardens, which have been supremely attractive of late, and which are assiduously superintended by their Nature-loving proprietor, Mr. Kenneth A. McDouall, such impressive Lilies as Lilium giganteum (of the Himalayas), L. pardalinum and its richly coloured, intensely glowing derivatives, L. tigrinum splendens and L. speciosum magnificum have been distinguished not less by the perfection of their foliage (upon which the success of the inflorescence entirely depends) than by the marvellous radiance of their flowers. The most interesting Lily, by reason of its extreme rarity, I have had the privilege of seeing in Logan Gardens this year was the distinctively coloured L. nepalense, a native of Northern India, which is generally regarded by horticulturists as being somewhat capricious, and is seldom seen flowering to advantage in the open air. In a sheltered nook of the spacious gardens at Logan House (which abound in unexpected treasures like this), it has, nevertheless, succeeded admirably, and has been greatly admired by visitors for its stately aspect and distinctive hues.

I have seen fine specimens of the Gigantic Lily of the Himalayas this season in Sir Mark J. Stewart's exquisitely beautiful Rose garden at Southwick in the County of Kirkcudbright; also at Canens House in the Parish of Kirkbean. I have not had the supreme pleasure of seeing Sir Herbert Maxwell's unique collection of Oriental and Occidental Lilies at Monreith this year, as atmospheric conditions were unfavourable for cycling purposes; but I learn from various sources that they have been, as formerly, exceedingly fine. It is marvellous how grandly such Lilies as giganteum, auratum, tigrinum and speciosum grow and flower in the "Wild Garden" of the Countess of Stair at Lochinch Castle, where they are cultivated by this fair lover of flowers in the heart of a shady wood.

A Lily garden of quite exceptional beauty, even for such a season, has been that of Mrs. Henry at Ardwell in Wigtownshire, which is charmingly situated between the gracious woods that environ Ardwell House (the residence of Captain Orde Stewart of the Grenadier Guards), and the luminous Bay of Luce. There, with a glorious environment of Wichuraiana Roses festooning pergolas and garden walls, Lilium candidum for a long period during the past summer reigned supreme. Seldom have I seen the fair Madonna Lily shining with such immaculate purity in the noblest possible aspect of her artistic potentiality.

TULIPS IN THE GARDEN

BY GEORGE DILLISTONE.

THEIR COLOUR.

THOSE of us who live our lives intimately associated with flowers have learned that Nature never received a colour education. One man writes: "Combinations of colour that we should not tolerate in pictures and in the decoration of our houses should not be tolerated in our gardens." How simple a pursuit gardening would become if this teaching were carried to its logical conclusion! What a clean sweep would be made of thousands of the denizens of the flower garden! Why, Nature has violated every man-made law of colour combination that ever existed, and done it thousands of times. The good lady has an unfortunate habit of throwing all the primary colours into her palette, and from the mysterious results selecting subtle combinations, vivid contrasts and quite bizarre effects that defy description. She does this not only in the way she mixes her vegetation, but often in a single flower. True, in this respect she conforms to the teaching of a great writer and teacher who said "No colour harmony is of high order unless it involves indescribable tints. It is the best possible sign of a colour when nobody who sees it knows what to call it, or how to give an idea of it to anyone else." Perhaps the great writer learnt this from Nature. I think he did, because about the same time he said that good Art consisted principally in the "love of Nature leading to the effort to observe and report her truly."

LILIUM NEPALENSE, A BEAUTIFUL ORIENTAL SPECIES.

The flowers are citron and purple black.

Is it not possible to go a little too far in the direction of limiting our garden colour arrangements to the fancies of the latest popular house decorator? Everyone possesses a colour sense of some sort and a desire for certain colour effects. These are not always those that would appeal to me or the author of my first quotation, nor do my fancies appeal to them.

Last May it was my lot to spend a good time with some very interesting people among the Darwin and May-flowering Tulips. Now, if there is one family of bulbous plants that offers facilities for pleasing everybody so far as colour is concerned, this is the one. What struck me most was the wide divergence of preferences expressed. The people I speak of were all educated in every sense of the word; some were known to be possessors of highly artistic temperaments. Most of them could claim some knowledge of the value of colour, and a few of them could legitimately claim to be experts. And yet when asked to express a preference for any particular variety for its *colour* effect, scarcely two of them chose the same. Everybody who knows the Tulips is aware that there exist some weird examples of colour mixing among them, that is, judged from the "artistic" standpoint. Often enough it was these weird examples that were chosen. Yet it was ascertained that few of the specimens were representative of what each would call his or her favourite colour arrangement as evidenced in the things they did, and liked, in everyday life. The conclusion arrived at was that, being overwhelmed by such a wealth of colour as is provided by several hundred thousands of Tulips, the mind lost the sense of direction given it by cultivation and automatically made its natural selection. In other words, when one gets far enough away from artificiality to Nature, anything that Nature does is accepted as the best without hesitation.

I must here state that I have no word to say against colour schemes, pleasing arrangements, or studied effects in the garden. I like them, and believe that without them the garden would lose much of its pleasure. But it is surely possible to follow the cult of colour too far and, incidentally, make ourselves slaves to restricted ideas, to our great loss and the possible gain of monotony. Monotones can be achieved, for those who like them, with paint, wallpaper and such uninteresting though necessary appliances. (To me most things are uninteresting that do not change,

lives, grow and die.) The garden is not the place for monotones. If we remember that "Given a certain group of colours, by adding another colour at the side of them you will either improve the group and render it more delightful, or injure it and render it discordant and unintelligible," that is enough restriction to impose in the garden.

How will you paint the pictures in your garden for the coming spring? There are few gardens, and few spots in any garden, where you cannot use the wonderful colour of the Tulips. Do you wish to see your garden rivalling the setting sun; ablaze with crimson and gold, orange and scarlet? In the Tulips you will find your pigments ready to hand, and they will give you all you want. Do you want some quiet colour harmony that will be soft and soothing as a summer evening breeze? Or perchance your inclination runs to contrasts and you like to see the richest purple maroon thrown into bold relief against the softest of creamy yellows. If you would be conventional and mingle lilacs, pinks and lavenders, you can do it. If you have a desire for the bizarre and would splash your colours in gaudy profusion, it is easy. Do you want a garden that shall in its lurid glare be emblematic of the wild horrors of the war, symbolic in its soft-toned beauty of peace? Shall it be rich in Oriental splendour, or betray a subtle combination, cool and exquisite? For each and all the Tulips are sufficient.

It is in May the best results are obtained, and then that they are most appreciated. The earlier spring flowers are past. The Daffodils have filled the wild garden with a wealth of every shade of yellow for weeks past. While they are at their best they satisfy, but there is no colour in the garden that so soon gets monotonous as yellow, even with all the variations the modern Narcissi offer. By the last week in April the eye begins to long for new and more varied effects, and these the Darwin and May-flowering Tulips provide.

THEIR USES.

There are many ways of using them: in bold groups along the margin of the shrubbery; in beds and borders of formal design; in shimmering drifts of greater magnitude among blossom-laden trees in an old orchard. Here the sombre tree trunks will lend their bronze, green-brown, grey, and a beautiful network of light and shade to the picture below; while the air is filled with pink and white showers of falling blossom. In the wild garden they are at home if care is taken in the arrangements to provide for their cultural requirements.

To take the last position first. In the wild garden Darwins, May-flowering and Cottage, early singles and doubles are alike of value. It must be remembered, however, that many of them do not naturalise in the true sense of the word. Left to take care of themselves, they continue to bloom for years, but several conditions mitigate their continued success. In grass they eventually become starved and small. Even when the surface of the ground above and around them is clear of weeds they get smaller each year, although they may increase in number. To get the best out of them they should be planted in positions in which they can be kept fairly clean and lifted every two, or at most three, years. Of course, no one would recommend growing thus to obtain specially fine blooms. The cluster of smaller bulbs that form round the original naturally tends to starve the flowering bulbs, with the result that the flowers do not attain great size. This does not matter, however, for the purpose for which they are required. Then the spaces selected to plant must be open, airy and sunny. To those who love the Bluebell effects, Primroses and Wood Anemones, it will be easy to conjure up the pictures that can be created with the intenser colours of the Tulips. Who does not appreciate the beauty of a sunlit glade seen beyond the purple shadows of overhanging trees? Just as the grass seems greener there, and as the yellow sunlight streaming in wakens to greater intensity every variation of tone and tint in bush and sward, so it will give fuller power to the gold and crimson, fawn, orange, bronze and flaming scarlet of Tulips if they be used there. Not grouped in carefully designed beds and borders, but splashed hither and thither with almost careless effort. "Not nice art in curious beds and knots." If it is desired to preserve the bulbs, it can be done by keeping the actual plantation clear of weeds and grass. For effect the grass can be allowed to grow long all round such plantations (I hesitate to use the word "bed," because it means something so different). By doing this the Tulips will appear as though growing among the grass. I know perfectly well we shall be told that this would not be a natural place wherein to find Tulips at all, and that we should therefore not attempt such pictures. The same remark might be made to apply to most gardening efforts, and the garden is the last place on earth for the operation of purist principles.

TULIPS IN A STRETCH OF PARKLAND.

One of the most successful results I have ever known was achieved by taking in a stretch of parkland. The trees were so disposed that they created a number of distinct vistas, all long enough for the eye to travel on until the view was lost in the purple shadows of more distant trees. Here was a situation in which the broad lines might be treated with lavish colour and in which there need be no jarring note. The May-flowering Tulips offered exactly the material required. The centre of the picture was filled with all the darker colours—the maroons, crimsons and purple shades.

Radiating from this central group were disposed graduations, a distinct one for each vista. That in one direction would pass from orange to yellow and yellow to cream; in another the deeper crimsons gradually gave place to the brighter, which, passing through scarlet and on to deep rose, became pink and finally white. In yet a third the purples and violets faded away into heliotrope, lavender and pale lilac. Thus each was a satisfying picture in itself.

Many such effects can be achieved on a smaller scale in the garden, even when the flowering portion of it is restricted to a few beds or borders. An excellent idea is to leave certain spaces in the herbaceous border especially for Tulips. Each space can be filled with a distinct colour group, and the whole arranged in such a way that either harmony or contrast is produced. The spaces so filled can be occupied by annuals for the late summer.

In beds some groundwork or carpeting plant is usually desirable. Purple Aubrietia with cream or primrose Tulips gives an exceedingly pretty effect. The blue of Forget-me-not offers facilities for a variety of groupings. Polyanthus, the early flowering Viola gracilis in deep purple, yellow, ultramarine and creamy white are all excellent for groundwork. The Arenarias, such as cæspitosa, make beautiful carpeting plants and an excellent foil for Tulip colours.

FABIANA IMBRICATA.

Those of us who have visited the lovely gardens of South Devon and Cornwall know this Chilian evergreen as one of their favoured denizens. In early June a specimen 6 feet or 8 feet high is a beautiful sight when smothered with countless white, tubular flowers. To the casual observer this shrub is a *deceptio visûs*, for it looks exactly like a Tree Heath whereas a reference to "Nicholson" will show that it belongs to the Solanaceæ, or Potato tribe, and was introduced in 1838. It will interest readers of The Garden to learn that this shrub has been grown for a number of years in the open (away from a wall) by Mr. G. B. Cope of Tettenhall, Wolverhampton. At the time of my visit it was growing in the rock garden—where there is a most interesting collection of plants and shrubs—and was quite 3 feet or 4 feet high. Mr. Cope's garden lies about 480 feet above sea level, and I noticed that the Fabiana was growing in similar soil to that in which some splendid groups of hardy Heaths were flourishing. The shrub was named in honour of Francisco Fabiana, a botanist of Valencia in Spain. Do any Midland readers of The Garden find this plant hardy against a wall or in the open? If so, I should be interested to hear about it.

Kidderminster. ARTHUR R. [illegible]

THE CULTURE OF FRUIT TREES.—II

GATHERING AND STORING FRUIT.

"For the better preserving of fruits it is universally recommended that the storeroom should be situated in a cool, dry spot, with a well-boarded floor and windows looking out towards the North. . . . Windfalls should always be kept separate, and there ought to be a layer of straw, or else mats or chaff, placed beneath. . . ."

THESE words are not quoted from any of our classic English authorities, but from Pliny the Elder, and they show how little one thousand years of experience has added to the wisdom of the ancients. In gathering, also, I might quote again many of his sage remarks which apply so well even to our northern regions, but the curious will doubtless search for themselves. The question of storing fruit has an added interest in these days, and I am therefore putting this chapter rather out of its due place in the hope that it may enable some readers of this paper to get their preparations forward. In this matter I also must strike rather an iconoclastic note, but when one sees Apples kept in piles 4 feet high in brick buildings, in cellars, in an underground tank, in matchboard sheds, airy attics, &c., it is difficult to follow the dogmatic line so often taken. The main point is to store only keeping fruit, a truish, perhaps, but not a superfluous remark, as I have seen the sad spectacle of early cooking Apples stored in a sure hope of the safe reappearance during the winter, and the conclusion is generally that "Our store will not keep Apples."

Any place that is not too airy or too damp will suffice, and as darkness is desirable it can easily be procured by covering the pile of fruit. Kentish fruit-growers use the most unlikely places to store Apples in times of heavy crop, and any place that will keep out the rain suffices; tin sheds, barns and lofts are all pressed into duty. For many, cellars are the most readily available places, and nothing could be better than a dry underground chamber, little affected as it is by change of temperature.

My own fruit-room is now well known, and has been reproduced in many parts of the world. Great was my surprise on one occasion to meet in an unfrequented village in Holland an exact replica on a smaller scale. But if in war-time such luxuries must be passed by, the smallest Apple-grower need not despair; a substitute is readily available. Procure some stout wooden boxes; the Tate sugar box of the present day, holding about 1½ bushels, is excellent. The fruits are then wrapped in paper, each fruit separately, and laid carefully in the boxes. If grease-proof paper is obtainable, it is preferable, being without any smell and preventing a rotting fruit, should one be overlooked in selection, from contaminating the remainder. The box when filled can be placed in a cupboard or in any cool room, and a further advantage of the papering is that the fruit does not smell, and might even be placed, suitably draped, under the grand piano. An outhouse will do equally well; some of my own boxes last year reposed in a thin matchboard shed through which the frost penetrated, and both Apples and Pears were frozen to the hardness of stones. However, left alone, they thawed gradually, and were none the worse for their experience, it being evident, therefore, that the frost-proof building so often postulated as a necessity is not absolutely essential. In milder winters than last the frost would not have reached the fruits, covered as they were by a few mats. A modification of this method is to place the fruit in boxes and fill with sand. This has the effect of retarding the fruit very considerably, and I have kept Cox's Orange Pippin till June by this plan. It is, however, very difficult to get the sand so clean that it leaves no earthy taste. Buckwheat husks, chaff and any tasteless and smell-less material which excludes the air will also do. In all of these methods it is necessary to take out only as much fruit as is wanted at a time, as it rapidly goes off as soon as exposed to light and air. Pears are best taken out and placed in a warm room for a few days before being used. In a fruit-room of the standard kind the fruit is best placed on the wood direct. Straw beneath does not affect the fruit which is used up to Christmas, but, as the end of the season approaches, the fruits are apt to take up a faint "strawy" flavour, which is unpleasant. A fruit-room *de luxe* which I have in mind would have slate or glass shelves, which could be cleaned down annually. In any room which is being used for fruit annually, it is a good plan to burn a sulphur candle before the fruit is placed in it, as a means of killing any of the fungus spores which may remain over from last year's bad fruit.

APPLE NEWTON WONDER, ONE OF THE BEST.

On the matter of gathering, much misapprehension reigns. The great idea to keep in mind is to gather only when the fruit parts easily from the tree. If it hangs on tightly, it is obvious that it has not yet done its work. There is, however, an exception, and that is in the case of early varieties, which should be gathered before they come away easily, and they will then ripen slowly indoors. If allowed to ripen on the tree we get mealy fruit, poor flavour, and rotting at the core so often seen in Pears. The greater the care used in handling the fruit the better the chance of keeping it well. Pears especially must be treated with the reverence they demand. Doyenné du Comice and Beurré Superfin, for instance, put in baskets and wheeled in a barrow to the fruit-room will soon protest against such undignified treatment. A flat basket or Kentish "bodge" padded at the bottom and filled with only one layer should be carried by hand into the store and handled with the greatest care. Once again it must be said that late fruits must be left on the tree as long as possible. Slight autumn frosts will do them no harm, but early gathering will mean shrivelled fruits and subsequent digestive disorders.

E. A. BUNYARD.

APPLE NEWTON WONDER

THIS late-keeping Apple is yearly becoming more popular as its merits are more widely known. In the autumn of 1915 I planted quite small bush trees, and this season they have huge crops—for their size—of handsome fruit. In growth the variety is all that could be desired, being vigorous and generally free from canker. Bush form is perhaps the best method of training, but the branches should be kept thin, as its natural upright growth tends to darken the centre if not carefully attended to. The fruits are large, solid and keep well—it is safely pronounced as one of the best.

E. M.

Alderborough St. Brigid Anemones

FOR A GLORIOUS SPRING DISPLAY.

THE Alderborough St. Brigid Anemones are perfectly hardy if planted in good time. We have never known even the severest frost lasting for weeks to injure them. It may cut the foliage, but it will not injure the roots. As regards culture, after the first year's bloom it is far better to lift the plants, dry, and replant in a fresh position than

to leave them in the ground; but the best results are obtained by planting a fresh stock. Fairly recently cultivated land is preferable to old garden soil, unless the latter has been recently limed.

To obtain the finest results from these glorious Anemones we strongly favour very early planting in preference to late. For outdoor culture throughout England and Scotland the best results are obtained when planted from the middle of August to the end of September. In favourable parts of the country where the climate is naturally moister and more humid and the autumns generally milder—such as Devon, Cornwall, the South-West of Scotland and West of England—the best results may perhaps be obtained from later planting also. It is well worth while starting the Anemone bulbs in small pots, from which they can be planted out into beds later in the autumn, when started, without breaking the balls of soil. In this way all the advantage of early planting is gained without interfering with bedding plants till these are over.

For spring and early summer display in the open, these Anemones are quite as effective as the finest early Tulips or other spring bulbs. Many amateurs think them even finer, so no one need lament the absence of foreign bulbs when these delightfully bright coloured St. Brigid Anemones are so pleasing and attractive. They have also the additional merit of lasting much longer in flower and being much more suitable for cutting purposes.

NEW & RARE PLANTS

AWARDS OF MERIT.

Ceratostigma Willmottiana.—This new and welcome addition to blue-flowered plants assumes a bushy habit and reaches from 5 feet to 6 feet high, flowering in May on the old wood and thereafter on the freshly made shoots. We have known it to be in flower for six months. In these circumstances it is a little unfortunate the plant was not shown earlier in the season. From Miss Willmott, Warley.

Aster Joan Vaughan.—The largest and best double of mauve blue shade yet shown. It is one of the Novi-Belgii set, and produces huge panicles of flowers. From Bakers, Wolverhampton.

Brasso-Cattleya Ilene The Bride (B.-C. Maroniæ × C. aurea).—A very handsome hybrid, sepals and petals white, suffused with delicate pink, the fringed lip of the same colour being marked by big light yellow side blotches. From Messrs. Hassall and Co., Southgate, N.

Cattleya Iris Orchidhurst Variety (C. bicolor × C. aurea).—The highly disposed petals, which are coloured a rich apricot touched with bronze, give character and distinction to a hybrid of high rank. The lip is of rich purple and in rare contrast. From Messrs. Armstrong and Brown, Tunbridge Wells.

These and the following Dahlias were shown before the Royal Horticultural Society on September 25.

NEW DAHLIAS.

Blush Star.—A further addition to the "Star" set, of rather delicate colouring. Shown by Messrs. J. Cheal and Sons, Crawley.

Mrs. Edward Moss (Pæony-flowered).—A self pink of semi-double character.

Mark (Pæony-flowered).—A most brilliant scarlet in a variety of exceptional size.

Cambria (Decorative).—A lovely self pink; an indispensable.

Sincerity (Pæony-flowered).—The colour is intense crimson scarlet and very showy.

Planet (Collerette).—Maroon scarlet with white central florets. These five were shown by Messrs. J. Burrell and Co., Cambridge.

Snow Cloud (Collerette).—Self whites in this section are not frequent, and this is one of the most shapely we have seen.

Transport (Decorative).—This did not appeal to us. The carry of the flower-heads was not good, neither were the pale pink green, hard-centred blooms. These two were from Messrs. J. Stredwick and Sons, St. Leonards-on-Sea.

Mrs. J. A. Jarrett (Collerette).—Magenta with cerise outer florets, centre ones white.

Autocrat (Collerette).—Guard petals vermilion scarlet, inner ones rich golden. The most brilliant and striking novelty the show contained. These two were from Mr. J. A. Jarrett, Anerley.

Fire King (Collerette).—Of clear scarlet with yellow petaloids. Shown by Mr. Charles Turner, Slough.

The foregoing Dahlia novelties, having been adjudicated upon by a joint committee of the Royal Horticultural Society and National Dahlia Society, receive the award of merit of the former society and the first-class certificate of the latter.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Celery.—No time should be lost in finally earthing up the latest batch of plants, carefully securing the leaves in an upright position before placing the soil about the stems, either by holding them firmly in the hand while a second person adds the soil, or by first tying the leaves with raffia.

Cardoons.—Continue to add haybands to the stems as progress in growth is made, finally covering the haybands with soil. Add supports to the stems, as required, to ensure an upright growth.

Spinach.—The early August sown batches are now providing a quantity of green, succulent leaves, which are a welcome change, and will continue until frost checks the growth. The latest-sown plot gives promise of a full spring supply. During dry weather frequently stir the soil to encourage growth and disperse slugs, which sometimes attack the plants. Make certain the plants are not too thick in the rows. If they are, the growth will be weakened and will suffer from frost much more than when the growth is sturdy owing to freedom of space.

Parsley.—Seedlings raised in August should be transplanted 6 inches apart in frames to ensure a spring supply. In some soils Parsley does not succeed during the winter months; the plants are apt to die off suddenly, and in other cases the leaves turn pale in colour. A plentiful supply of wood-ashes in the soil and soot occasionally sprinkled over the plants will aid growth in extreme cases. Where the soil lacks iron, a soaking with water in which 2oz. of sulphate of iron to a gallon of water have been dissolved is a good corrective.

Cauliflowers.—The plants raised from seed sown last month will now require potting singly in small pots, plunging them in ashes in a cold frame for planting out in March next; or they may be pricked out in a cold frame 4 inches apart, taking the lights off on all favourable occasions to ensure a sturdy growth.

Cucumbers will now require attention by giving a night temperature of 65° to encourage a free growth from recently raised plants which have fruited only a short time. Keep the growth thin on the supports to allow abundance of light to reach all the leaves; pinch the point of each shoot at every second joint, and do not allow more than one fruit to remain on a cluster, as overcropping is sure to cause a check to the free swelling of the fruit. Encourage surface roots by frequent thin top-dressings of loam and leaf-mould.

Tomatoes in pots carrying full crops of fruit should be given occasional supplies of weak liquid manure, and a buoyant atmosphere maintained by warming the hot-water pipes at night; this will accelerate the ripening.

Fruit Under Glass.

Vines from which the Grapes were cut in June should now have all side shoots shortened back to within 6 inches of the base to aid the plumping up of the basal buds for next season's crop.

Young Vines should have the lateral growth shortened back for the same reason and to ensure a thorough ripening of the canes.

Late Grapes need careful attention. Maintain a buoyant atmosphere to prevent damping of the berries, which frequently occurs in the centre of the bunches, especially if the berries were not thinned sufficiently to admit air freely among them. The laterals should also be removed in such a manner that they do not obstruct light and air. Do not stint the roots of moisture; if a good soaking is required, place a thin covering of straw on the surface afterwards to keep down the moisture rising from the soil.

The Hardy Fruit Garden.

Planting Bush Fruit Trees.—The early part of the month is a good time to plant Gooseberry and Red, White and Black Currant trees. This early planting enables the roots to take hold of the soil while it is still retaining some warmth. In this way such trees have a distinct advantage over those planted later.

The Herbaceous Border.

Chrysanthemums.—The late-flowering varieties will need supporting with stout stakes to ensure their stems being kept in an upright position, rendering them all the more valuable for cutting as compared with crooked stems, which occur when the plants are not supported.

Narcissi of the tall-growing type, like Emperor, maximus, Sir Watkin and Horsfieldii, make a good show in the borders early in the year before the regular occupants have made much growth. Now is a good time to plant the bulbs in groups of five or ten 1 foot apart and 3 inches deep.

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(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Beetroot.—The main crop may now be lifted and stored in sand under cover for use during the winter and spring months. Most people know that the roots should not be lacerated; therefore they should be loosened properly to ensure their being drawn from the ground intact, and the leaves should be twisted off instead of being cut, the reason for this being that there is a chance of cutting into the root, which should be avoided. The leaves are useful for manure, and should be dug into the ground directly the roots are removed. The deep stirring of the ground in the process of lifting is almost as beneficial as double digging.

Potatoes.—Late varieties may be lifted at any suitable time, the sooner the better, as the tubers contract little or no soil on their skins at this comparatively early date. Sort them into sizes when gathering, and after setting apart the required quantity for current use, place the remainder in a pit, in which the tubers keep much better than when exposed to air. If at all wet when clamped, an opening must be left at the apex of the pit to allow moisture to escape; but if lifted in dry weather and before the ground is soaked by rain, this precaution is not needed, while the ground suffers nothing from the lifting and consequent trampling.

Brussels Sprouts.—These are now ready, and care for a while is needed in gathering, taking only a few from each plant. Any coarse, open Sprouts should be set aside for soups or vegetable puddings, and only the hard ones used for dishes.

Lettuces.—Sow in a box, to be placed under glass, enough seeds of a Cabbage variety to yield material for late spring use; that is if there is a suitable pit in which to plant out and grow on the plants. Choose enough nearly full-grown plants to transfer to cold frames for winter use. If stood on a hard bottom, they need only enough leaf-soil packed about the roots to keep them quite fresh, but proper balls of soil must be preserved when lifting. Endive may be left out for some time longer.

Plants Under Glass.

Chrysanthemums.—These can no longer be safely left out of doors. They should have been prepared previously by cleaning off bad foliage and weeds from the soil, and all ties seen to. After lifting and before arranging under glass, the pots should be cleaned. The latest plants should have plenty of room, the earlier ones needing less space. Ventilate very freely at night as well as day in suitable weather. Much depends on the structure for retarding the bloom of late sorts, and, where more than one structure is filled, the different keeping qualities of these should be noted

and that suitable for these qualities filled with late kinds.

Zonal Pelargoniums.—The earliest batch of winter-flowering Zonal Pelargoniums should now be in full bloom, and the plants will preserve their beauty for a long time in a dry, airy structure, all the attention needed being water at the roots—probably not more than twice weekly during this month and at longer intervals afterwards—with the removal of decaying leaves and flower-trusses, and the tips of shoots pinched off immediately beyond new trusses as soon as they can be handled.

The Hardy Fruit Garden.

Pears.—Keeping varieties are now ready for gathering, as in the case of Apples, going carefully over the fruits and removing only the more forward. Many of the backward fruits will continue to swell for another month, and, of course, the latter are somewhat longer in maturing in the fruit store than those picked earlier. All the very late varieties should be left meanwhile. If it can be avoided, Pears should not be stored with Apples, the latter keeping best in a very cool, slightly damp room, while Pears prefer dryness and not to be quite so cool as Apples. Indeed, Pears approaching maturity can be considerably hastened to ripeness by placing them in a warm room.

Apples.—During the next fortnight the bulk of these should be pulled and stored, leaving the very latest a few weeks longer on the trees. Only experience can teach just when the fruits should be taken, but it is worth noting that, while allowed to hang long enough, they keep without shrivelling and at the right time develop into good eating fruits. If gathered too soon they shrivel and never lose their woody toughness. Ventilate the Apple store freely in the meantime and the nasty Apple smell will never be noticed.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

The Winter and the War

LOSSES AND SURPRISES.

BY THE REV. JOSEPH JACOB.

THE winter of 1916–17 will assuredly go down to history as one of the coldest and most trying seasons for garden vegetation on record. As I have seen comparatively little about its effects in the pages of THE GARDEN, I am venturing to jot down and send for publication a few of the most interesting happenings in my own enclosure, hoping thereby to set the ball of other people's experiences rolling.

If I were asked to name the most striking general or universal results of the war in English gardens, I would hazard as answer, Vegetables and Weeds. Miss Jekyll told us months ago how her beautiful herbaceous border was being made into a Potato patch. Sir Herbert Maxwell not so long since in the pages of a contemporary bemoaned the steady advance of our always-ready common enemy—the weeds—in many parts of his garden. These are typical examples of the spirit of the time. "To scatter plenty o'er [what is still, thank God] a smiling land" is the highest aim of the enforced stay-at-homes; while as for Groundsel, Chickweed, Sow-thistles, Squitch-grass and other like annoyances which, if the ancient saw,

> "One year's seed
> Seven years' weed,"

be correct, will be with us for a season whenever the great fight is over, "He jests at scars who never felt a wound." Pardon, great Bard, the little liberty I have taken in the endeavour to clothe my feelings with apt words. Weeds for a time at least will no longer mark the sloven, but rather the patriot who gladly endures for the sake of his country.

The depredations of King Frost are in a different category altogether, but, none the less, many of them are equally or even more trying. I refer to the losses of shrubs and plants on the borderland of perfect hardiness. One expects a Cistus to collapse; but some plants of Azara microphylla grown against the house and some Rosemaries survived and are now none the worse. I have, however, in 7-inch pots a common Holly, some rooted Rosemary cuttings, a common Yew and three seedlings of Cupressus Lawsoniana. These were forgotten and stood outside quite unprotected through all the intense cold. The Rosemaries have gone; I expected it. So, too, has the Holly; I did not expect it. The others, bar one Lawsoniana which has gone, are in no way affected. Fact No. 1. Was this to be looked for?

After all the hard frost I was flattering myself that both black and white slugs would have been considerably lessened in numbers. But when the Peas and Beans came up I had a warning. In common with several neighbours I found the young plants got badly eaten; hence several evenings' slug picking was necessary to keep them in check. Now I am getting up my Tulips, I am finding the little beasts busy browsing on the bulbs in greater numbers than I can ever remember in the whole of my twenty odd years' experience. The frost has certainly not killed off many slugs. Fact No. 2.

Last year we had a couple of beds 4 feet wide by 40 feet long filled with seedling Dahlias. Press of work prevented them being taken up until late in the autumn. When preparing these same beds for late sowings of vegetables this spring several tiny *self-sown* seedlings were found. These were lifted and transplanted, and they are now nice little plants. Fact No. 3. Is this unusual? Again, there are a goodly number of Primrose-Polyanthuses in different parts of the garden. The two and three year olds got badly cut up; the one year olds fared better, but in each case there was a mere tithe of the bloom that one usually gets. I conclude the embryo flower-heads could not stand the excessive cold. Fact No. 4. Doubtless other readers have facts to record. Gardeners enjoy relating their own and learning about other people's experiences. This is my excuse for writing.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE ordinary fortnightly meeting held on September 25 was considerably augmented by the vegetable show being held in conjunction therewith, the twain filling the hall to its utmost capacity. Outstanding exhibits of the meeting were the remarkable collection of vegetables from the University College, Reading, and the wondrous collection of Potatoes from Messrs. Dobbie, Edinburgh, each of which received a gold medal. Roses again were particularly good and from many sources; while Dahlias, Carnations and Orchids also contributed their quota of interest and beauty. Fruit collections from Coombe Court and Orpington were especially noteworthy, and attracted much attention. Eleven new Dahlias, two Orchids and two hardy plants gained awards of merit.

FRUIT AND VEGETABLES.

The fact that two gold medals and one silver-gilt Knightian medal were awarded in this section alone should go far to demonstrate the high excellence of the produce shown. Nothing, indeed, could be finer or pay a higher tribute to cultural effort, industry, and a recognition of the needs of the time than these. One of the gold medals was awarded Messrs. Dobbie and Co., Edinburgh, for an exhibit of fifty baskets of Potatoes, the quality of which even this eminent firm has probably not before equalled. Of the highest possible excellence throughout and practically without spot or blemish, pedigree seedlings that may mean much to future generations mingled with the best of to-day, at once an object-lesson of cultural skill and the exhibitor's art that will need some beating. We have no room to name the fifty varieties shown, and content ourselves by giving a few that appealed to us. Of these Dobbie's Favourite, The Factor, Midlothian Early, Majestic (new, a second-early of great promise), Great Scot, Witch Hill (virtually a white-fleshed Midlothian Early), Arran Chief, Kerr's Pink (a great cropper and also a wart resister) and Edzell Blue (perhaps the whitest of white-fleshed sorts) were some of the best. A magnificent exhibit in every way. The other gold medal was awarded to a collection of vegetables from the University College, Reading (Mr. E. R. Janes, Superintendent). Here some 250 dishes of vegetable produce were set out in the most artistic way, and rarely indeed has so much colour beauty gone hand in hand with the cultural skill exemplified by this exhibit. Leek Prizetaker, Cucumber King George, Carrots Sutton's New Red Intermediate and Champion Scarlet Horn, Student Parsnips a yard long, Celery of the best, and Runner and French Beans were all in perfection. Colour was afforded the group by great shields of Carrots, Sutton's Blood Red Beet, Chillies, Capsicums, Long Purple Egg Plant, Tomatoes and the like. Great size was not noted. Instead, everything was of a useful nature and model-like in its uniformity. The exhibit constituted a chief attraction. Very fine was the collection of Apples and Pears sent by the Marquis of Ripon, Coombe Court, Kingston Hill (gardener, Mr. T. Smith), for which a silver-gilt Knightian medal was awarded. Some good dishes of Apples were Cox's Pomona, Peasgood's Nonsuch, Stirling Castle, Potts' Seedling, Cellini Pippin, The Queen, Emperor Alexander, Worcester Pearmain, James Grieve and Charles Ross. Pears, too, were good. Messrs. Sutton and Sons, Reading, contributed a most interesting lot of Marrows, Squashes, Pumpkins and the like. American Bush Squash, Turk's-cap or Turban Edible Pumpkin or Gourd, Ohio Squash, Pumpkin Spanish Giant, Pumpkin Nicaise (rich yellow) and Sutton's Mammoth Gourd were among those shown. Vegetable Marrows were strongly in evidence, the small Pen-y-byd being noted among others. Trays of Plums President, Coe's Golden Drop and Golden Transparent were well shown by Mr. J. C. Allgrove, a silver Banksian medal being awarded. A new Apple, Arthur Theed (Peasgood's Nonsuch × Ribston Pippin), shown by Messrs. G. G. Whitelegg and Co., Chislehurst, is of considerable promise. Large and highly coloured, it is said to possess the Ribston Pippin flavour with keeping qualities into May. Very fine fruit (Apples chiefly) was shown by Mr. H. Close, Orpington. Charles Ross, New Hawthornden, Warner's King, Emperor Alexander, Cox's Pomona, Blenheim Orange (very fine), James Grieve (superb), Emperor Alexander and Norfolk Beauty were some among many.

ROSES.

In Messrs. Frank Cant and Co.'s group Ophelia was in grand form. Duchess of Wellington, Margaret Dickson Hamill, Sea Bird (cream) and Edith Part were others of note. The Rev. J. H. Pemberton, Romford, again displayed a series of his own raising, chiefly cluster sorts. In that from Messrs. B. R. Cant and Sons, Beauté de Lyon, Red Letter Day and Mme. Edouard Herriot stood out well. Messrs. Alex. Dickson and Sons, Newtownards, showed the fine semi-double red K. of K., Clarice Goodacre, Chameleon and Red Letter Day. Mr. J. C. Allgrove, Langley, Slough, contributed fruiting examples of Rosa Moyesii and R. setipoda, a big plant of the former carrying a dozen 3 feet to 4 feet long fruiting branches. At this stage the plant is a fine ornament for the garden. Brilliant as is this species, the other one named is more so, and of a rich lustre withal. In Mr. Elisha Hicks' group Princess Mary, Charles E. Shea, Mrs. Dunlop Best, Joanna Bridge, Mrs. George Norwood (very fragrant), Ophelia and Climbing Hillingdon were among the best.

DAHLIAS.

A great gathering of these, representative of many sections, came from Mr. J. B. Riding, Chingford. Collerette varieties were very good, also Pæony-flowered and Decorative sorts. Diana (Pæony-flowered), ruby red; Exmouth Glory (Decorative), yellow and white; Pierre Lebond, maroon and white; Marienne (orange bedding sort), Godfrey's Crimson, and Stema, soft yellow, were some conspicuously good sorts. Messrs. J. Cheal and Sons, Crawley, also showed Dahlias well, singles, Star varieties and Collerettes being freely staged.

HARDY PLANTS.

Of these Mr. Ernest Ballard, Colwall, staged good Michaelmas Daisies of the Novi-Belgii type, Mrs. E. Ballard (pale blue), Rachel Ballard and Beauty of Colwall being some of them. In a small lot from Mr. W. Wells, jun., Merstham, Senecio pulcher and Helianthus sparsifolius were the more conspicuous items, the latter very fine. Mr. G. Reuthe, Keston, had, among others, the rarely seen Philesia buxifolia (whose fleshy, scarlet flowers approximate to those of Lapageria), Rhabdothamnus Solandri (a New Zealander with orange red flowers), the pretty Fagus fusca, and bunches of fruiting pods—not yet fully coloured—of Decaisnea Fargesii. Colchicums, Sedum trifidum and the richly berried Cotoneaster divaricata were also noted.

MISCELLANEOUS.

Fruiting and other shrubs were contributed by Messrs. J. Cheal and Sons, Crawley, and Messrs. Piper, the last-named firm having good examples of Pyracantha Lelandii with choice shrubs in pots. Messrs. Allwood Brothers displayed Carnations; Messrs. H. B. May and Sons, a choice assortment of Ferns and flowering sprays of Lapageria (red and white).

ORCHIDS.

Some very choice things were staged by Messrs. Armstrong and Brown, Tunbridge Wells. Of these Cattleya Iris Orchidhurst Variety (apricot, purple crimson lip), Lælia Acis Orchidhurst Variety (rich golden petals and ruby red lip) and Cattleya Armstrongæ var. lilacina (very delicate in colour) were included. Two new Odontoglossums were labelled S. T. Wright and W. E. Bissett.

O. Jasper Fowler's variety being in good form. Of most interest, perhaps, was Lælia pumila alba, raised from home-saved seed, the seedlings coming quite true. Messrs. Charlesworth and Co., Hayward's Heath, had a fine plant of Brasso-Cattleya Safrano, the petals of softest primrose with golden base to a much fringed lip affording a pretty picture. Cattleya Hesta and Lælio-Cattleya Thyone were also noted. Messrs. Hassall showed Brasso-Cattleya Ilene and Lælio-Cattleya Roumania. In a small group from Messrs. Sander and Sons, St. Albans, choice Cypripediums were noted, C. Royal Sovereign, C. Shogun, C. Mary Beatrice and C. Cavalier igneum, with richly spotted dorsal petal, being the more striking.

THE VEGETABLE SHOW.

In the leading class, for which the first prize was the Sutton Challenge Cup (value £21) and £5 cash, three entered, the coveted cup being awarded to W. H. Myers, Esq., Bishop's Waltham (gardener, Mr. G. Ellwood), for an excellent exhibit. Twelve kinds, distinct, were asked for, the finer dishes being Gladstone Pea, Best of All Tomato, Cucumber Ideal, Exhibition Brussels Sprouts, Prizetaker Leeks and Prizewinner Runner Beans. The items were well displayed. Second, Mr. T. Jones, Ruabon, whose Ailsa Craig Onions, Champion Leeks, and Exhibition Runner Beans were very good.

Nine distinct kinds (first prize the Gordon-Lennox Challenge Cup and £4 cash) also brought three entries, the leading prize going to Eustace E. Palmer, Esq., Basingstoke (gardener, Mr. H. E. Wallis), for a capital selection in which Dwarf Gem Sprouts, Champion Horn Carrots, Tomato Best of All, and Gladstone Pea stood out well. Second, the Hon. Mrs. R. Greville, Polesdon Lacey, Dorking (gardener, Mr. H. Prince), who showed Premier Onions, Sunrise Tomato, Scarlet Perfection Carrot and Lyon Leeks well.

For six distinct kinds Miss E. L. Bradshaw, Steeple Aston, Oxon (gardener, Mr. R. Wadham), was first, Best of All Tomatoes, New Intermediate Carrot and Satisfaction Potato being the best dishes; second, G. Thorn, Esq., Ashford, Kent (gardener, Mr. Hoad).

Twelve varieties of Potatoes, distinct, brought several collections, the produce being good. First, J. B. Fortescue, Esq., Dropmore (gardener, Mr. C. Page), whose best dishes were Royal Kidney, Royalty, Great Scot and King Edward VII. A. Smart, Esq., Abergele (gardener, Mr. R. Rogers), was second, having the last two named and Satisfaction very good.

For six distinct varieties of Potatoes G. Thorn, Esq., Ashford, Kent, was first, Industry, White City and King Edward VII. being good. Second, W. H. Myers, Esq., Bishop's Waltham.

The last-named exhibitor (gardener, Mr. G. Ellwood) was in the winning place for six varieties of Onions, distinct, having White Italian, Brown Globe, Ailsa Craig and Improved Reading very fine. Eustace E. Palmer, Esq., Basingstoke, was second, the dishes of Cranston's Excelsior, Blood Red and Ailsa Craig being particularly good.

W. H. Myers, Esq., Bishop's Waltham (gardener, Mr. G. Ellwood), was also in the winning place for a collection of six distinct salads, having Ideal Cucumber, Bavarian Endive, All he Year Round Lettuce, Beet and Tomato Perfection. Mr. E. Matthews, Mortimer, was second.

SINGLE-DISH CLASSES FOR AMATEURS.

That for Scarlet Runner Beans brought eight excellent dishes, albeit the date was late for good produce. First, Miss E. L. Bradshaw, Steeple Aston, Oxon (gardener, Mr. R. Wadham), who staged a superb dish of Prizewinner. Best of All was sent by Sir Montague Turner, Romford (gardener, Mr. A. J. Barrett), and awarded second prize.

Mr. E. Matthews, Mortimer, was awarded first prize both for French Climbing and Dwarf Beans, the produce generally not first-rate. A like remark applies to the Globe Beet class, in which Mrs. Jenner, Wenvoe Castle, near Cardiff (gardener, Mr. H. Wheeler), was placed first. Long or Tap-rooted Beet was of a decidedly superior type; and in a competition eight strong Sir Montague Turner, Romford (gardener, Mr. A. J. Barrett), was given first prize for very fine Sutton's Black. Mr. Eustace Palmer was second.

Eight excellent dishes of Brussels Sprouts (fifty buttons) were staged, Mr. T. Jones, Ruabon, leading with a superb lot of Exhibition, W. H. Myers, Esq., Bishop's Waltham (gardener, Mr. G. Ellwood), being second with Dwarf Gem. A good class, practically every dish worthy of a prize. For three plants of Brussels Sprouts Mr. R. Staward, Panshanger, was first, Mr. G. Ellwood, gardener to W. H. Myers, Esq., Bishop's Waltham, being second.

For three Cabbages Mr. H. Prince, gardener to the Hon. Mrs. R. Greville, Woking, was a good first with clean, model-like examples of Wheeler's Imperial; second, Mr. Eustace Palmer with All Heart; third, Mr. G. Thorn, Ashford, with Emperor. For a similar number of Savoy Cabbages Mr. Eustace Palmer was first with Perfection; second, the Hon. Mrs. Greville, who sent Early Dwarf Ulm; third, Sir Daniel Gooch, Chelmsford, with Best of All. For Cauliflowers Mr. T. Jones, Ruabon, was in the winning place with Autumn Mammoth Mr. E. Matthews, who showed Purity, being second.

For both White and Red Celery Mr. T. Jones, Ruabon, was in the place of honour, his Giant White being very good. Aldenham Pin nd Superb Pink were staged in the "red" class. W. H. Myers, Esq. was awarded second prize. Six competitors entered. For Cucumbers Mr. Eustace Palmer excelled with the variety Delicacy, Mr. T. Jones being second. Seven brace were staged. The last-named exhibitor excelled in the class for Leeks and Vegetable Marrows, having superb International in the former. In the class for Onions Mrs. Jenner led with very good produce; while in that for Parsnips and Long Carrots Miss Bradshaw, Steeple Aston, Oxon (gardener, Mr. R. Wadham), occupied the place of honour with particularly clean, well-developed roots. Tender and True Parsnip and New Red Intermediate Carrot were the varieties respectively. Much opinion was expressed with regard to the second prize in the Parsnip class, which was awarded Mr. Eustace E. Palmer, Mr. E. Matthews being given third. Obviously the last-named exhibitor showed the finer roots—certainly the most free from blemish.

For Stump-rooted or Short Carrots Mr. T. Jones, Ruabon, was well first with the variety Model, the roots also being of model character. Miss Bradshaw with the same variety took second prize. Ten capital lots were staged. Culinary Peas brought eight good dishes, Mr. E. Matthews and Mr. T. Jones taking first and second prizes respectively with Gladstone, of excellent quality. For white and yellow fleshed Turnips Mr. T. Jones excelled, Miss Bradshaw winning in the Purple-top class.

For a dish of white Potatoes Mr. G. Thorn was first with The Factor; second, Mr. E. Matthews. For coloured Potatoes Mr. G. Ellwood, gardener to W. H. Myers, Esq., Bishop's Waltham, was first, and Mr. G. Thorn second, both showing the popular King Edward VII. very well.

Eleven staged in the red Tomato class, Miss E. L. Bradshaw, Steeple Aston, Oxon (gardener, Mr. R. Wadham), being first with a splendid lot; second, Mr. G. Thorn with Progress. A most attractive class, the produce first-rate throughout. Only three dishes of yellow Tomatoes were staged, Mr. T. Jones excelling with Golden Sunrise; second, Miss Bradshaw, this exhibitor being also awarded first for any other vegetable, in which class Sutton's Silver or Seakale Beet was well shown.

ANSWERS TO CORRESPONDENTS

TREES AND SHRUBS.

SHRUB TO NAME (*Hedgerley*).—The specimen received for identification is Amelanchier canadensis. It does not require regular pruning.

TO RESTRICT THE ROOTS OF A WELLINGTONIA (*Sidbrook*).—The best means of preventing the roots of a Wellingtonia spreading into your herbaceous border is to open a trench several feet from the border and about 2 feet wide to a depth of 3 feet and cut off all the roots. Fill the trench with ordinary soil and repeat the operation every three or four years. It is of no use filling the trench with stones or anything of that kind, for the roots will penetrate almost anything that could be used for filling with safety.

FRUIT GARDEN.

PALE COLOUR IN APPLE LEAVES (*T. R. F.*).—The trouble with the Apple foliage is known as chlorosis, and is due to a deficiency in the amount of chlorophyll present. This may not occur next year, but in order to guard against its possibility it would be as well to give the soil a dressing of sulphate of iron at the rate of, say, 4oz. to the square yard about the tree.

FRUIT AND VEGETABLE DRYING (*G. M. J.*).—You may safely use galvanised iron wire for the drying trays. Jerusalem Artichokes are far better left in the ground until they are required in the winter, or if they are lifted they may be stored in sand. This is such a hardy vegetable that it is not worth the trouble and expense of drying. If, however, you desire to dry it, the tubers should be sliced.

GATHERING MEDLARS (*F. W.*).—They should not be gathered until from the middle to the end of October. If no frost intervenes, let it be the end; but should a sharp spell of frost come on towards the middle of the month, which is not unusual, let them be gathered, bearing in mind, however, that 5° or 6° of frost will not hurt them. Store in a cool corner of an ordinary fruit-room on clean paper, one layer deep only. They should be eaten as soon as they are soft. They remain in good condition for a fortnight or three weeks. See answer recently given on the same subject to "C. Romaine."

BITTER MELONS (*M. O.*).—In the absence of specimens it is impossible to say whether the bitter flavour is due to the attack of a fungus or not. A fungus which produces bitterness does occasionally attack Melons, but the effect of it should be seen on the outside of the fruit, and it is unlikely that all the fruits on one plant would be simultaneously attacked. At the same time, the flavour of Melons varies very much, and it may be that the seeds from which these were grown had been crossed with another variety, which has resulted in the bitterness. Again, occasionally the seeds begin to germinate inside the Melon, and this produces a bitter flavour.

KITCHEN GARDEN.

STORING GARDEN SWEDES (*Avenue Essex*).—These Swedes are very hardy, and may be left in the ground until late October. A good place to keep them in is an odd corner in a cold outhouse, burying them in sand, which should not be dry nor wet, but slightly moist. In hard frost cover with straw as well—not that it would hurt them, unless it should be very severe. Cut the tops off to within half an inch of the crown, and store in the rough as taken out of the ground. Jerusalem Artichokes.—Do not take these up at all. They are better lifted from the ground as wanted. They are perfectly hardy.

THE STORING OF CARROTS AND PARSNIPS IN WINTER (*U. L. S.*).—Parsnips are quite hardy and may be left in the ground all the winter if desired; but we think it is better to take them up at the end of October and store in sand in a cool, dark cellar or outhouse. Cut off the leaves to within half an inch of the crown, but do not bury this. A good way is to stack the Parsnips up against a wall, covering the roots with sand as the stack grows, but not the crowns. Take up the Carrots at the same time and serve in the same way. They are not quite so hardy as Parsnips. The sand should be moderately moist.

MANURE FOR MUSHROOMS (*G. P.*).—Fungi are very particular, as a rule, concerning the material upon which they feed, and stable manure is the best for the common Mushroom. It will live on decaying turf and the like, but does not grow so vigorously there as it does on stable manure, and we know of no substitute for it in cultivation.

HOW TO USE BASIC SLAG IN THE KITCHEN GARDEN (*D. J.*).—In the absence of farm or stable yard manure, basic slag forms a useful substitute to apply to the kitchen garden in autumn. It takes a long time to dissolve and mix with the soil; hence the importance of applying it in autumn. It should be dug into the ground in the same way as ordinary manure, at the rate of 7lb. per rod.

BEETROOTS AND CARROTS TO STORE (*T. Q.*).—To hang them up as you suggest would spoil them by the action of air drying up their juices. The better way is to store them in moderately dry sand on the floor of an outhouse or cool cellar. Let them be taken up carefully on a dry day at the end of October. Expose the roots for a day to the sun to dry; cut off the tops of both to within half an inch of the crown or top of the roots; bed them in sand, a layer at a time, beginning with a layer of sand, then a layer of roots, and so on. They will keep quite fresh for a long time. In case of hard frost in the depth of winter, add a covering of straw or mats to protect the roots from frost.

STORING CARROTS AND TURNIPS (*J. F. J.*).—They had both better remain in the ground until the end of October; then take up in fine weather and expose for a day to the sun to dry. Cut away the tops of both half an inch above the crown or top. Store the Carrots in moderately dry sand (not too damp nor too dry) in a cool cellar or outhouse. Protect from hard frost in winter by covering with straw or mats. Turnips.—Place these in a heap on the floor of a cellar or outhouse as above. Cover over with mats to keep them dark, and they will keep well up to Christmas or later. Protect from hard frost.

The "Kew Bulletin."—The editor of the *Kew Bulletin* begs to announce that the Select Committee on Publications and Debates Reports, having considered the question of the recent suspension of the *Kew Bulletin* by the Controller of H.M. Stationery Office, have recommended the resumption of its publication. The second number for 1917 has accordingly been published, and further numbers will follow in the usual course.

Trials at Wisley, 1918.—The Royal Horticultural Society will hold trials of Achilleas (all kinds), Candytufts (perennial varieties), and Chrysanthemum maximum and its allies at Wisley in 1918. Three plants of each variety, to be tied together with the necessary entry forms (one for each variety), should reach the Director, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey (station—Horsley, L. and S.W.R.), by November 30, 1917. Forms of entry can be obtained from the Director at the above address.

Canned Pineapples from Queensland.—The following paragraph comes from a Queensland journal: "With the needs of Britain and her Allies for foodstuffs becoming more urgent, it is good news to hear that the other day a shipment of 10,000 cases of canned Pineapples was despatched to the Old Country. This is the second large shipment during recent weeks, and the material was gathered from the various canneries in and around Brisbane. The canned fruit is for the use of troops in England and on the Western Front. Before despatch the goods were subjected to a careful and close investigation by the officers of the Department of Agriculture, and found to be of excellent quality. In view of the fact that there are thousands of acres available in Queensland for the culture of this luscious fruit, a big trade should be built up after the war with the older civilisations."

The War Office notifies that from now onward all papers posted of any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C* 2.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

AS I write I have before me a letter from a Scottish poultry-keeper asking for advice regarding some of his pullets that are ailing. As the matter raised is likely to be of general interest sooner or later, I will deal with the subject in this week's notes.

Suffering from Colds.—In the case in point it appears that this poultry-keeper a few weeks ago bought some 1917-hatched Leghorn pullets from Yorkshire and installed them on his "home" farm in Scotland. Although perfectly fit when delivered, the majority are now down with colds. Here is an extract from my correspondent's letter:

"Several weeks ago I purchased from a Yorkshire breeder fifty White Leghorn pullets of this year's hatching, and all were in nice condition upon arrival. Now the majority seem to be suffering from colds, and I am wondering if it is because White Leghorns cannot stand the exposed sites of Scotland, and therefore do not get acclimatised very easily. I think I ought to mention, however, that we had changeable weather at the time the trouble showed its appearance. Is there any precaution that I can take?"

Our Changeable Weather.—I have not the least doubt that the change in the weather brought on the outbreak of colds, as White Leghorns are notoriously hardy and are very popularly kept in Scotland. What is more, this particular breed does well in Scotland, as egg-records in my possession testify. In these isles we experience very changeable weather, which is not altogether appreciated by fowls. Especially is this noticeable between autumn and the commencement of winter, when the poultry-keeper should keep a careful eye on his birds and watch for any signs of colds. Warm housing is necessary, although, of course, coddling in any shape or form must not be tolerated. It is draught that must be guarded against, and for this reason the owner must pay strict attention to housing, which must be on common-sense lines.

Attend to Housing.—The forward youngsters should be perching well, and steps should be taken to see that they take to the perches at night. They are often troublesome in this respect, and seem to prefer sleeping on the floor or in the nests. Such methods are harmful, since the birds when huddled together sweat and readily catch cold upon going out into the cool air in the morning. What is more, where ground-roosting is allowed, many promising youngsters are lost through being suffocated. One can easily prevent birds from roosting in the nest-boxes by closing these up at night and by fixing a slanting roof or lid to each. At first one may have to school the young birds into taking to the perches, but that is not a difficult matter. The owner should visit the house the last thing at night and place all the birds upon the perches. If this is done several evenings in succession the youngsters soon know what is desired of them.

Ventilation Essential.—Poultry-keepers must learn to differentiate between fresh air and draught. The latter is harmful, whereas the former is essential. Fresh air has never been responsible for the death of a single fowl. If the poultry-keeper has not already done so, let him overhaul his poultry-houses and make them both rain and draught proof, ready for the changeable weather ahead. There must be proper ventilation to ensure a perfect current of fresh air within the house at night. Some houses are so badly constructed that the inmates are always catching cold, and no progress will be made until such structures are remodelled. I have often found it an advantage to bore a few holes in the back (just under the roof) of such buildings, and this invariably has the effect of preventing further outbreaks. The ventilators, too, must be well placed, both inlet and outlet. The fresh air should enter well above the heads of the birds as they roost, and the perches should not be directly under the inlet hole. The outlet aperture should be placed as high as possible, and in all cases it should be made possible to regulate the ventilators. The house, too, is all the better where the structure can be given an airing in the daytime.

SICILIAN BUTTERCUP.

An aristocratic cockerel, the property of Miss Champion, Heather Hall, Leicester. Readers will notice the cup-comb peculiar to this variety.

To Ward Off Colds.—It is far better to take steps to prevent an outbreak of ailments in the poultry-yard than it is to apply the remedy directly the symptoms are noticed. Where large flocks of layers are kept, the owner has to be very keen if he is to detect early symptoms. It is here that the owner of a few birds scores heavily, in that he always has all his fowls under his eye. Where the owner of large flocks has his birds at heart, he will more readily detect symptoms of an ailment than the person who feeds the layers and collects the eggs *automatically*. I am greatly in favour of periodical visits to the roosts at night, when all the birds can be carefully examined. One cannot always tell by appearances whether a bird is ailing or not, and it would be inadvisable by day to catch each bird and handle it. After dark the fowls will readily allow the owner to examine them without any protest whatsoever.

Examine the Crops.—My readers will probably be curious to know to what kind of examination I should submit each fowl. In the first place I should listen for any abnormal breathing or sneezing, and if such were present I should locate the invalid and remove her to "hospital" for special treatment. I should pay particular attention to each bird's crop. If the latter was empty, I should suspect a derangement of the gizzard or other internal organ, or even "bullying." If, on the other hand, it was very hard, I should mark the bird and examine it again before breakfast was served. If the contents still felt a solid mass, I should suspect compaction of the crop. Isolation and treatment would follow. I should also be on the look-out for birds with "razor" breast-bones and an absence of flesh either side. If any were discovered they would be put under treatment and the cause of the "going light" sifted out.

A Useful Aid.—To ward off colds and roup I know of no more reliable aid than Izal Disinfectant Fluid. It is best given in the liquid used to soak the ingredients of the mash, one liquid ounce of the disinfectant fluid being added to each eight gallons of water poured over the mash, and *pro rata*. When symptoms of an outbreak of cold show themselves in the poultry-yard, Izal can be given *daily*—dose as above recommended—to all the birds until the "All clear" is given. While, however, this disinfectant proves a *remedy* when colds are present, it is also a reliable *preventive* of colds and roup when given regularly. From autumn onwards right through the winter, while the weather is continually unfavourable, Izal can be used in the mash two or three times weekly in the proportion mentioned, when it will be found to protect the birds from most ills.

Danger of Roup.—Although it is not generally known, many serious ailments spring from an ordinary cold that has been neglected. Roup is one of them, and when an outbreak of this disease is experienced, very careful attention is imperative. Many fail to cure roup merely because they pay attention to the *exterior* of the suffering fowls and neglect the *interior*. If the Izal is added to the soft food as already mentioned, this will do its work within the ailing bird. As regards the exterior, one will find no more reliable treatment than that of dipping the heads of the birds in weak Izal wash. Fill a bucket with water to which has been added Izal Disinfectant Fluid in the proportion of one part of disinfectant to twenty parts of water. Morning and night merely dip the invalid's head in the wash for a second or so and withdraw it.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C. 2.*

PRINCIPLES THAT GOVERN POULTRY HOUSING

(Continued from August 25 issue.)

SO far I have not dealt with backyard poultry structures. As a rule, the backyard site is a dry one, for which reason an earthen flooring to both house and run will give equal results with the wooden floor. Sometimes, however, the backyarder finds himself on heavy clay, and rather than experiment by removing the top surface and trying to make the foundation dry by drainage, let him instal wooden floors to both house and run. Backyard runs should always be covered in if the best results are to be obtained, and while the soil in the run should be kept soft and scratchable, the flooring to the sleeping-house can be bedded down with litter. There is no reason, however, why the backyard poultry-keeper should not use as a foundation tarred clinkers if he so desires. In the summer comparatively good egg-results can be obtained even with faulty and badly planned houses, but the very opposite is the case in the winter months when the fowls are subjected to every kind of unfavourable weather.

Types of Nest-Boxes.—I will now deal with nest-boxes. Generally speaking, these are of two types—(1) outside, and (2) inside. Both have disadvantages as well as advantages, as my readers will readily glean from my notes. Outside nest-boxes undoubtedly save much time and labour when the eggs are being collected, and the attendant usually has a better light outside than inside the house when recording the eggs laid. Again, at such times he is not so cramped for room. Outside nests do not use up any of the ground space within the house, and if properly designed they represent snug retreats for the layers. Another strong point made out by those who adhere to outside nests is that they allow of cleanliness more so than the inside ones. The interiors, it is contended, can be easily creosoted or limewashed, with outside nests, and the nesting material quickly renewed. The bottoms of the nests, too, can be readily scrubbed out with Izal bar soap and disinfectant wash, a few holes being bored in the underneath boards to drain off the water. The roosting on and in the nests is not so noticeable with outside as inside nests, and in the cool "outer" nest-boxes experience has proved that broodiness is not so prevalent. Another advantage is that the lids to the outside nests can be partially opened prior to roosting-time to fill the structure with fresh air.

Inside Nest-Boxes.—Those who advocate the use of inside nest-boxes argue that the nests can be removed for cleaning purposes, and that they can be fixed at a height to prevent litter from being scratched into them by the fowls. At egg-collecting times they argue that the recording sheets can be hung up near the nests, where they are under cover and protected from the rain which would smudge the figuring. Again, in very cold weather the eggs are not so liable to become frozen, and, being under cover, cheap material can be utilised in the construction of the "inner" nests. No locks and keys are necessary and the building is not weakened in any way, which is the case, they aver, where structures are fitted with outside boxes, apertures having to be cut to take them. The drawbacks to inside nests are many, chief among them being the disturbance to the birds occasioned each time the house is entered at egg-collecting time and the damage to the litter caused by muddy boots in wet weather. Docility can be schooled into the birds during their period of growth, and a brush-and-scraper can be fixed outside each house for the owner to clean his boots before entering the house.

Select the Right Design.—It is, after all, a matter of choice as to whether inside or outside boxes are adopted, although I rather favour the former. It is more important, however, to select the proper design. For the large laying-houses and for breeding and backyard structures, outside nests have their advantages, for one has but to book the daily totals of eggs laid, and time and labour are thus saved. If trap-nesting is carried out, however, the inside boxes are to be recommended. No nest that encourages egg-eating is at all suitable, and yet the majority of nest-boxes fail in this direction, whether in design or position. Dark nests are a *sine qua non*, and they should in all cases be located in a dark corner of the house. In intensive houses the ideal place for the outside nests is directly below the wire-netting front. Those "outer" boxes arranged along the side of the structure within sight of the birds as they scratch in the litter are often the cause of egg-eating. With their open fronts and their nearness to the flooring the birds scratching in the litter can watch their sisters lay, and eagerly await the eggs as they drop into the nests.

Snug Retreats.—The nests should represent snug retreats to which the pullets or hens can steal at laying-time. The fronts of open outside boxes are for that reason, and in order to check egg-eating, best boarded up except for a circular entrance hole to each compartment. Next this board be well above the litter to prevent the latter being scratched by the birds into the nests. Inside boxes are best fitted underneath the dropping board, with their openings facing the back of the house. The birds, when desiring to lay, pass to the rear of the house and enter the nests, which, so placed, are snug and quiet retreats in every way. A small glass panel can, if desired, be fitted in the back of each nest (*i.e.*, facing the front of house) so that the owner can peep through to see if a hen is laying within. For cleaning purposes the backs can be hinged, so that they drop down when fresh litter has to be placed within the nests or the eggs therein collected. Even where "traps" are fitted to nests arranged under the droppings-board it is not a difficult matter to reset them, and the layers can be liberated by just dropping down the hinged backs.

Roosting in Nests.—A habit that must be rigidly kept in hand is the night-roosting of birds either on top of or within the inside nest-boxes. This is quite common where the boxes are not fixed beneath the drop-boards. Many poultry-keepers fix their nests along the side of the house (inside), and these encourage this night-roosting. Steps, however, can be taken to prevent this. In the first place the roof should be fixed in a slanting position so that birds cannot get a grip thereon or feel at all comfortable if they endeavour to roost there. As regards the open fronts, a hinged drop-shutter can be arranged to shut up at night and be buttoned, when closed, at the top. If desired, this drop-shutter governing the fronts can be fixed in such a manner that when down it acts as a step-board, on to which the birds fly when visiting the nests prior to entering them for laying purposes. Some step must be taken, because if birds crowd together in or on top of the nests they readily sweat and are liable to catch colds. Again, night-roosting encourages broodiness.

FRANCE'S FAVOURITE UTILITY BREED.

A fine flock of La Bresse, the property of Mrs. D. Longueville, Oerley, Oswestry.

Outside Nest-Boxes.—Where outside boxes are adopted, they should be fixed at a convenient height. If they are placed too low down, the operator has to kneel very uncomfortably when gathering the eggs. This is not an ideal method of collecting eggs for the lady poultry-keeper during inclement weather when the ground is muddy. Matters can be helped if the ground directly below the nests is composed of broken bricks that have been well rammed down and covered with sand. This is, of course, only one method of keeping the ground reasonably dry, but it matters little which plan is adopted so long as the object I have in mind is achieved. Care should be taken in fixing the lid to outside nest-boxes. If it is placed at the top of the range of nests, a hood should be fixed directly above it to catch the rain and turn it from the nests. On no account must the rain be allowed to run down the house into the nests to make the nesting material wet.

Fitting the Lid.—The best plan, perhaps, is to have a "fixed" top, felted over, and arranged in a slanting position to carry off the rain. This roof can be carried well over the front with the same object in view, and the felt can be carried a distance up the side of the house.

(To be continued.)

RECENT ORDERS OF THE ROYAL COMMISSION ON PAPER AND SEEDSMEN'S CATALOGUES.

[TO THE EDITOR OF "THE GARDEN."]

IN March last the Royal Commission on Paper issued an Order under the terms of which tradesmen's catalogues, price lists or advertising circulars could be sent out only in response to direct applications for such catalogues, &c. On March 12 a representative meeting of members of the seed trade was held and a committee appointed, of which I was asked to act as Chairman. As a result of several meetings of the committee and correspondence and interviews with the Paper Commission, a very valuable concession was made on May 15, by which the distribution of seedsmen's catalogues was permitted by the Commission during the present year on condition that not more than 50 per cent., whether in number or in weight, of the catalogues distributed in the year 1914 were sent out, and that the catalogues contained the offer of "food product" seeds only. Subsequently, on August 20 a further Order, which revoked the earlier Order, was issued by the Paper Commission, granting licence for the issue and despatch of tradesmen's catalogues, price lists and advertising circulars, between the date of this licence and January 31, 1918, to the extent of one-third of the weight of paper used for such catalogues, &c., between August 1, 1916, and January 31, 1917.

The situation thus raised was so serious that an interview was at once arranged with the Paper Commission. As a result of subsequent interviews and correspondence the Commission has now definitely declared that seed merchants may still avail themselves of the special concession granted in May last for the issue, without application, of 50 per cent. of the weight of catalogues sent out in the season 1913–14, provided that such catalogues refer exclusively to "food product" seeds, and has asked me, as Chairman of the Trade Committee, to communicate this decision to the members of the seed trade.

It is therefore now open to seedsmen to send out combined catalogues of vegetable seeds, flower seeds, &c., as formerly, but using only one-third of the paper utilised between August 1, 1916, and January 31, 1917; or else to divide their catalogues into two parts and thus make use of the 50 per cent. concession for catalogues of "food product" seeds, in addition to the one-third allowance for other catalogues.

The Paper Commission, in response to my appeal, will not now place a limit on the number of catalogues issued, provided that the weight of paper does not exceed 50 per cent. of that used in the year 1913–14 in the case of catalogues of "food product" seeds; or 33⅓ per cent. of the weight of paper used between August 1, 1916, and January 31, 1917, in the case of all other catalogues. But it is definitely laid down that catalogues issued under these concessions must include the total number sent out, whether in response to applications or without applications.

The Commission have agreed that catalogues of "food product" seeds may include the offer of grass seeds and also of garden sundries.

ARTHUR W. SUTTON.

P.S.—The Chairman of the Royal Commission on Paper received a deputation from the Seed Trade Committee on September 28, and after very full and sympathetic consideration given to points raised by the deputation, the following official ruling was given: "The recent Order of the Paper Commission relating to all catalogues issued between August 20, 1917, and January 31, 1918, shall not be deemed to apply to any catalogues for bulbs, nursery stock, seeds, &c., which had been printed before the date of the Order—August 20, 1917—but had been sent out since that date. Any balance of the catalogues so prepared and printed which may have been reserved for issue to customers and which have not yet been sent out must now be deemed as coming within the recent Order of the Paper Commission dated August 20, 1917, and the weight of such catalogues must consequently be included in the weight specified in the recent Order affecting all catalogues issued between August 20, 1917, and January 31, 1918." Catalogues containing the offer of "food product" seeds, exclusively, are still covered by the concession of May 15 last as explained in the foregoing letter. I may also mention that the Secretary of the Paper Commission, when writing to the Secretary of the Horticultural Trades Association on September 20, 1917, stated: "Catalogues of *flower* seeds fall within the conditions of the general licence of August 20, 1917, a copy of which is enclosed herewith, and in the case of catalogues combining both food and flower seeds *the proportion of weight permitted must be arrived at by calculation*."—A. W. S.

OBITUARY

J. C. COLLINS.

MESSRS. W. CUTBUSH AND SON of Highgate and Barnet Nurseries deeply regret to record the death of their esteemed traveller Mr. J. C. Collins, who passed away on August 30 at the age of sixty-eight. He was greatly respected by all who knew him and had worked assiduously and conscientiously for the past thirty years, during which time he made many friends.

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Awarded Medal at Royal Horticultural Exhibition, 1911.

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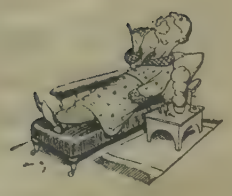

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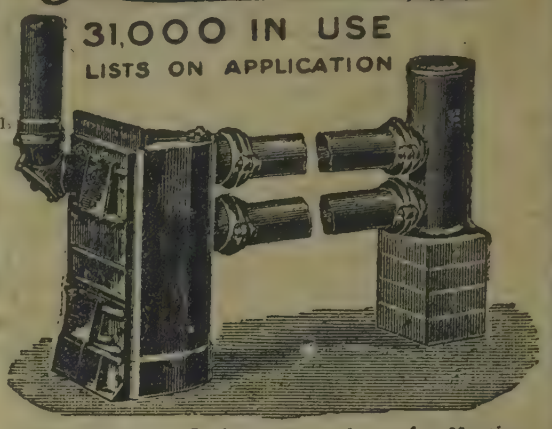

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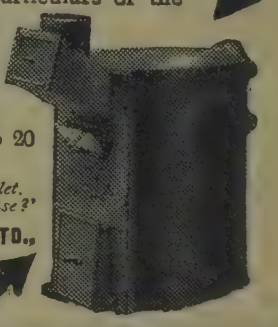

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Caroline Testout (ht),sal.pink 9d.
Dr. O'Donel Browne (ht),car. 10d.
F. K. Druschki (hp), white 10d.
George Dickson (ht), crim. 10d.
Gustave Grunerwald (ht),car. 10d.
J. B. Clark (ht),deep scarlet 10d.
La Tosca (ht),silvery pink - 10d.
Mme. Ed. Herriot (per),red 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. John Laing (hp),rose pk. 8d.
Mme. Isaac Pereire (b), car. 8d.
Ulrich Brunner (hp),cher.red 8d.

Hedge Roses

SELECTION "G-H."

12 vigorous and hardy sorts.

Both sets together. **9/-** Carriage paid.

Set "G" for High Hedge, 5/-

Alberic Barbier (Wich.),yel. 11d.
Blush Rambler (Poly.),blush 11d.
Excelsa (W.), scarlet - - 11d.
Dorothy Perkins (W.), pink 11d.
Felicite-et-Perpetue, cream 11d.
Hiawatha (Poly.), crimson 11d.

Set "H" for Low Hedge, 4/6

Common Blush (China),pink 8d.
F. H. Veitch (ht), scarlet - 10d.
Lady Waterlow (ht),salmon 11d.
Gruss an Teplitz (ht), crim. 9d.
Trier (P.), creamy white - 11d.
Zeph. Drouhin (hb),carmine 11d.

Tall Bedding Roses

SELECTION "J."

12 vigorous sorts, may be pegged down or grown natural.

Charming colouring. **7/9** Carriage paid.

Gen. McArthur (ht),crimson 10d.
Gruss an Teplitz (ht), crim. 9d.
Gus. Grunerwald (ht),carm 10d.
Hugh Dickson (hp),crimson 8d.
Lady Hilingdon (t),apri.-yel. 10d.
La Tosca (ht), silvery pink 10d.
Mme. A. Chatenay,sal.pink 9d.
Mme. M. Soupert (ht),yellow 10d.
Mrs. R. G. S. Crawford,pink 8d.
Pharisaer (ht), rosy white - 10d.
Pce. C.de Rohan,dark crims. 8d.
Souv. de M. Zayas (ht), car. 9d.

Garden and Cutting

SELECTION "M."

12 free-flowering roses for garden and indoor decoration.

Abundance of bloom. **8/3** Carriage paid.

Arthur Goodwin,orange red 10d.
Betty, coppery rose - - 10d.
Edu Meyer, red and yellow 10d.
Genl. McArthur,bright scar. 10d.
Gruss an Teplitz, crimson - 9d.
Harry Kirk,deep sulphur yel. 10d.
Killarney, pink - - - 10d.
Mme. Abel Chatenay,sal.pk. 9d.
Mme. Jules Grolez,bright rose 9d.
Mme. Ravary, pale orange - 9d.
Rayon d'Or,deep orange cad. 1/-
Richmond, pure red scarlet 10d.

Sweet Briars

SELECTION "R."

6 choice and fragrant sorts, suitable for hedges, &c.

Colours exquisite. **4/3** Carriage paid.

Anne of Geierstein,deep cri. 10d.
Edith Bellenden, rose pink 10d.
Lucy Bertram,rich crimson 10d.
Lady Penzance, soft copper 10d.
Meg Merriles, bright crim. 10d.
Rose Bradwardine,clear rose 10d.

Dwarf Bedding Roses

SELECTION "I."

12 perpetual, free-flowering sorts, of bushy habit.

Surprisingly effective. **8/6** Carriage paid.

A.R. Goodwin (per.),sal.pink 10d.
Betty (ht), coppery rose - 10d.
Dchs. of Wellington, saffron 1/-
Ecarlate (ht), scarlet red - 10d.
Earl of Warwick (ht),sal.rose 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),apricot pink 10d.
Mme. Ed. Herriot, red - 10d.
Molly S. Crawford (t),white 10d.
Mrs. A. Ward (ht),Indian yel. 10d.
Rayon d'Or (hb),orange cad. 1/-
Richmond (ht), scarlet - 10d.

All Purposes Roses

SELECTION "K."

12 first-class sorts, suitable for general use.

Do well everywhere. **6/6** Carriage paid.

Betty (ht), coppery rose - 10d.
Caroline Testout (ht),sal.pink 9d.
Fisher Holmes (hp),cri.scar. 8d.
F. K. Druschki (hp), white 10d.
H. F. Richardson (ht),crim. 10d.
Hugh Dickson (hp),crimson 8d.
Lady Ashtown (hp),deep pk. 9d.
Lyons Rose (ht),shrimp pk. 10d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Ed Herriot, red - 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. J. Laing (hp),rose pink 8d.

BEDDING PLANTS

(Ex. strong transplanted bushy.) Doz. 100

Wallflowers, red - 10d. 5/-
" " *yellow* 10d. 5/-
Forget-me-not, blue 1/- 6/-
Canterbury Bells in sep. colours, white, rose, blue or mixed 1/6 9/6
Iceland Poppies, mxd. 2/6 15/-
Polyanthus, mxd. - 2/6 15/-
Sweet Williams:
Pink Beauty Hybrids 1/3 8/-
Golden Alyssum - 2/8 16/-
Hardy Auriculas - 3/- 20/-
Purple Aubrietia, pots 4/- 30/-
Silvery Rockfoils - 4/- 30/-
Graecian Violet - 4/- 30/-

New and Gold Medal

SELECTION "T."

12 first-class new roses, nearly all gold medallists.

Exceptional value. **20/-** Carriage paid.

Cleveland - - - - 3/6
Constance, rich yellow - 1/3
Isobel, carmine red - - - 3/6
Modesty, pearly cream - 3/6
Nellie Parker, creamy white 3/6
Gorgeous, copper and yellow 1/6
Hoosier Beauty, dark crim. 1/6
H. V. Machin, bright crim. 1/-
Mme. C. Martinet, deep yel. 1/3
Marg. D. Hamil, gold. yellow 1/6
Ophelia, salmon flesh pink 10d.
Mrs. B. Walker - - - 1/6

Roses for Walls

SELECTION "P-Q."

12 sorts which do very well in various aspects.

Hardy, vigorous. **9/6** Carriage paid.

Set "P" for North or East, 5/-

Aimee Vibert (cl.,n.),white 11d.
Ards Rover (cl.,hp),cri. mar 11d.
Climbing C. Testout, pink - 11d.
Conrad F. Meyer (R.),sil.rose 10d.
Gerbe Rose (W.), pale pink 11d.
Gloire de Dijon (cl.,t),sal.yel. 11d.

Set "Q" for South or West, 5/-

Billard et Barre (cl.,t),gol.yel. 11d.
Cl. Mrs. W. J. Grant, rose - 11d.
Mme. Alfred Carrier (hn.),w. 11d.
Mme. J. Gravereaux, yellow 11d.
W. A. Richardson, orange - 11d.
Zephirine Drouhin, carmine 11d.

Gold Medal Roses

SELECTION "L."

12 newer sorts, all gold medallists but two.

Creme de la creme. **9/-** Carriage paid.

British Queen (ht),snowyw. 10d.
Dchs. of Wellington, yellow 1/-
George Dickson (ht),deepcri. 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),coppery-sal. 10d.
Leslie Holland (ht),vermilion 10d.
Mabel Drew (ht), cream - 10d.
Mme. E. Herriot (per.)pr.red 10d.
M. de Sinety (ht),gold bronze 1/-
Mrs. A. Carnegie (ht),white 10d.
Rayon d'Or (per.), golden - 1/-
Willowmere (per.),coral pk. 10d.

Baby Ramblers

SELECTION "O."

12 roses of bushy habit, recommended for beds.

About 1ft. in height. **8/6** Carriage paid.

Annie Miller, dazzling pink 10d.
Canarienvogel, yel. & orange 10d.
Ellen Poulsen, deep rose - 10d.
Erna Teschendorf, crimson 10d.
E. Lamesch, orange pink - 10d.
Jessie, rose crimson - - 10d.
Katherine Zeimet, pure wh. 10d.
King Edward VII., rosycar. 10d.
Leonie Lamesch, copperyred 10d.
Mrs. Taft, brilliant crimson 10d.
Mrs. W. H. Cutbush, cher.pk. 10d.
Orleans, geranium red - 10d.

Climbers, Ramblers

SELECTION "S."

6 roses suitable for trellis, pillars, arches, pergolas, &c.

All very vigorous. **4/9** Carriage paid.

Alberic Barbier (W.),yellow 11d.
American Pillar (cl.,P.),pink 11d.
Blush Rambler (cl.,P.),blush 11d.
Dorothy Perkins (W.), pink 11d.
Excelsa (W), bril. scarlet - 11d.
Hiawatha (cl.,P.), crim.wh. 11d.

Exhibition Roses

SELECTION "B."

24 specially-selected varieties, superb form, grand colour.

Assured prize winners. **15/6** Carriage paid.

Avoca (ht). crimson scarlet 10d.
Bessie Brown (ht),creamyw. 10d.
British Queen (ht), white - 10d.
Chas. Lefebvre (hp),crimson 8d.
Coronation (hp), flesh pink 10d.
Dean Hole (ht), silvery rose 10d.
Earl of Gosford (ht),dk.crim. 10d.
Ethel Malcolm (ht),ivory w. 10d.
Gl. de C. Guinoisseau (hp),ver. 8d.
George Dickson (ht),vel.crim. 10d.
Hugh Dickson (hp), crimson 8d.
J. B. Clarke (ht), crimson - 10d.
Jonkheer J.L. Mock (ht),car. 10d.
Leslie Holland (ht),scar.cri. 10d.
Mabel Drew (ht),canary yel. 10d.
Lyons Rose (ht),shrimp pink 10d.
Mrs. C. West (ht), shell pink 10d.
Mildred Grant (ht),tinted w. 10d.
Mrs. Amy Hammond (ht),ap. 10d.
Mrs. Andrew Carnegie (ht),w. 10d.
Mrs. John Laing (hp), rosypk. 8d.
Mrs. J. H. Welch (ht), pink 10d.
Mrs. Roosevelt (ht),pale flesh 10d.
Ulrich Brunner (hp),cher.red 8d.

Fragrant Roses

SELECTION "D."

12 chosen chiefly for their abundant delicious scent.

Colouring gorgeous. **7/9** Carriage paid.

Alfred Colomb (hp), red - 8d.
Dupuy Jamain (hp), cerise 8d.
Earl of Gosford (ht),crimson 10d.
George Dickson (ht),vel.cri. 10d.
General Jacqueminot (hp),cr. 8d.
Gen. McArthur (ht),crimson 10d.
Juliet (hb),old gold and red 10d.
La France (ht), rose - - 9d.
Lady Alice Stanley (ht),pink 10d.
Mme. Ed. Herriot (per),red 10d.
Mrs. John Laing (hp),rosy pk. 8d.
Ulrich Brunner (hp),cher.red 8d.

Buttonhole Roses

SELECTION "F."

12 charmingly coloured and daintily formed in bud.

Last well when cut. **8/6** Carriage paid.

Harry Kirk (t), yellow - 10d.
Lady Hillingdon (t),apri.yel 10d.
Lady Roberts (t),reddish apri. 10d.
Liberty (t), velvety crimson 9d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Jean Dupuy (ht),rose 10d.
Melody (ht), saffron yellow 1/-
Mrs. A. Ward (ht), yellow 10d.
Mrs. G. Shawyer (ht), pink 10d.
Mrs. H. Stevens (t), white 10d.
Richmond (ht), scarlet - 10d.
Sunburst (ht),cadmium yel. 10d.

Hardy Fruits

"Falstaff" Selection of Cottage Garden Fruits

All best sorts. Strong trees. **18/6** Exceptional value. Carriage paid.

1 Bramley's Seedling Apple, cooker.
1 Lord Suffield Apple, cooker.
1 James Grieve Apple, dessert.
1 Cox's Orange Pippin, dessert.
1 Louise Bonne Pear, cook or eat.
1 The Czar Plum, cooker or dessert.
1 Victoria Plum, cooker or dessert.
1 Morello Cherry, cooker.
1 Loganberry, for tarts or jam.
4 Boskoop Giant Black Currant.
4 Whinham's Industry Gooseberry.
12 Superlative Raspberry, the best.

All the above-named fruits are very free-bearing, hardy, thrifty sorts.

Hardy Border Flowers

Bees' "Victory" Selection, 30 First-class Perennials

Carefully selected with object of producing continuous display. **6/-** See catalogue for plan showing how to plant. Carriage paid.

1 Dropmore Alkanet, 4ft., gentian blue.
2 Colwall Michaelmas Daisy, 4ft., lilac.
3 Teersteeg Marguerite, 2ft., snow white.
4 Hybrid Larkspur, 5ft., violet, purple.
5 Ballard Michaelmas Daisy, 3ft., mauve.
6 False Dragon's-head, 5ft., carmine.
7 Hybrid Larkspur, 4ft., sky blue.
8 St. Egwin Michaelmas Daisy, 3ft., pink.
9 Red Elecampane, 5ft., crimson, bronze.
10 Scarlet Campion, 3ft., geranium red.
11 Blue Lupin, 4ft., magnificent blue.
12 White Peach-leaved Bellflower, 2ft.
13 Oriental Poppy, 3ft., salmon pink.
14 White Lupin, 4ft., purest white.
15 Gauze Flower, Gypsophila, 3ft., white.
16 Tree Lupin, 4ft., yellow, fragrant.
17 Siberian Iris, 3ft., rich blue.
18 Fire Flower or Pyrethrum, 1½ft.
19 Showy Fleabane, 1½ft., mauve.
20 Hybrid Columbine, 2ft., var. colours.
21 Pink Knotweed, 6in., rosy pink.
22 Mrs. Bradshaw's Avens, 2ft., scarlet.
23 Mussin's Catmint, 1½ft., lavender.
24 Blue Peach-leaved Bellflower, 2ft.
25 Blue Perennial Flax, 1½ft.
26 Golden Marguerite, 2ft., rich yellow.
27 Beesian Mimulus, 9in., scarlet, gold.
28 Jacob's Ladder, 1ft., pale blue.
29 Gentian Speedwell, 1ft., blue.
30 Double Pyrethrum, 1½ft., var. colours.

Flowering Shrubs

'Hey Presto' Selection, 15 Beauties

Suitable for small gardens. **6/-** Do well in towns. Carriage paid.

Autumn Glory Speedwell, evergreen, p'ple.
Double Flowered Gorse, golden yellow.
Sea Tamarisk, soft rosy pink.
Spiræa, Anthony Waterer, red.
Spanish Broom, fragrant, yellow.
Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
Piptanthus, new, from China.
Giant Mock Orange, white.
Starry Daisy Bush, white.
Lavender, true fragrant sort.
Hardy Scotch Fuchsia, red.
Golden Forsythia, very choice.
White Broom, exceedingly pretty.

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THE GARDEN.

No. 2395.—Vol. LXXXI.] [October 13, 1917.

NOTES OF THE WEEK

SUGGESTIONS, both from the Southern and Midland Counties, have been made regarding the formation of a national society of allotment-holders. Such a society is needed both in the interests of landowners and land workers, and it should prove a source of influence for the promotion and protection of plot-holders. It would be a national disaster if previously neglected land now under cultivation is ever allowed to fall back into a derelict condition. To obviate this would, we presume, be one of the first considerations for the proposed national movement. With the object of creating a national allotment society a conference of delegates from allotment societies will be held on October 20 at Essex Hall, Essex Street, Strand, W.C., at 3 o'clock.

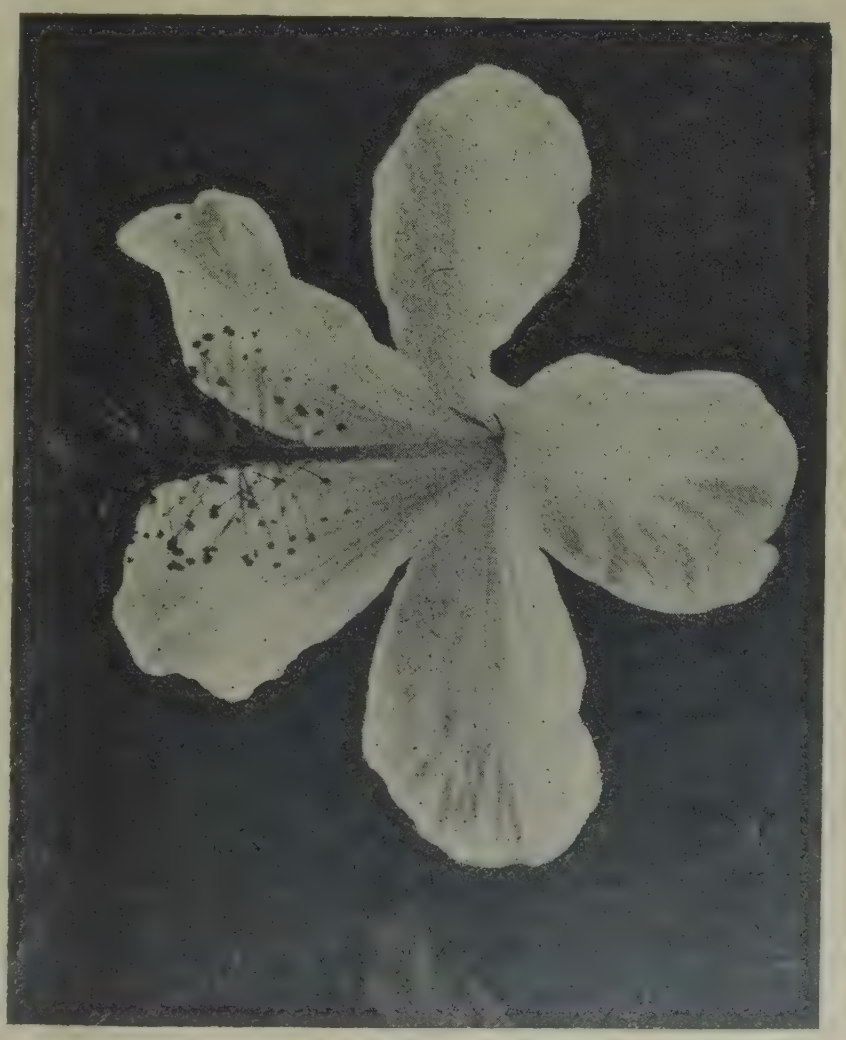
Sprayed *v.* Unsprayed Potatoes.—Reports sent to the Food Production Department show that at Guildford sprayed plots yielded 25 per cent. greater crop than unsprayed; and at Salisbury twenty-four sprayed plants gave 120lb. as against 96lb. from twenty-four unsprayed plants. A Devon report says tubers from sprayed plants were "distinctly larger" than from unsprayed. Other Devon reports and reports from Essex, Hereford and elsewhere confirm the theory that even where spraying does not entirely prevent disease, infection is less likely to occur after spraying, and outbreaks of disease are checked.

Potato Sets Chilled.—One plot of seven acres planted here with last season's grown seed came up very slowly, weakly, and remained so all the season, so much so that I forecasted a poor return, which has, unfortunately, been the case. Quite early in the season I formed the same theoretical opinion as suggested by several writers, viz., that the seed being subjected to a low temperature so long, although not actually frozen, the vitality of the tubers was so weakened as to give poor results. I am interested to find such an authority as Mr. Cuthbertson holds the same view.—E. M., *Swanmore.*

Should Onions be Grown on the Same Beds for Many Years?—The axiom that a change of crop is always desirable is not without its exceptions, and the rule does not appear to hold good with the cultivation of the Onion—a fact of which amateurs ought to be advised. When we find that well-known prize-winners grow their Onions year after year on the same beds, we may well "think furiously" as to whether we should not copy them with our utility crops. We remember hearing a most interesting discussion on this particular point between a number of excellent gardeners. A prominent exhibitor led off the discussion by a strong statement in the affirmative, but exception was taken to this by some gardeners who held by the old rule of changing the land every season. But none could gainsay the fact that the exhibitor who led had achieved noteworthy success.

Kohl Rabi.—We are generally advised to grow this delicious vegetable as a substitute for Turnips, being assured that it will do on land unsuited to the latter. This is doubtless true enough. But why not grow it in addition to Turnips? It is far superior to the average garden Turnip in flavour, and well worthy of cultivation upon its own merits. The green variety is the best, and two sowings will provide a succession of roots from summer well into winter, for it is quite hardy. This year, while almost everything of the kind was attacked by caterpillar, "Cold Rabbit" was left untouched. Kohl Rabi should always be used when young—say, no larger than a billiard ball. It should be boiled whole and without peeling, so as to conserve the delicate flavour. We do not know whether this is the orthodox way, but there is no comparison between the peeled Kohl Rabi and the unpeeled when on the table.

Hibiscus Waimeæ.—This plant, now in flower in the Mexican House at Kew, was formerly known as H. Arnottianus, and is a native of the South Sea Islands. The flowers are handsome and of a good size, being about 6 inches across when fully expanded. The stamens are arranged on a long column standing about 5 inches out from the flower. The petals are pure white and the stamens and column crimson. When the stamens are ripe the pollen is a shade of orange scarlet, the stigma remaining crimson. The column forms a pleasing contrast to the white petals, while the leaves, being of a bright shining green, show up the flowers to advantage. They are about 6 inches long, and at the widest part 5 inches across. The plant is nearly 15 feet high and, unfortunately, flowers for only about a third of the length from the top. The shoots may be pruned back annually, the flowers appearing on the current season's wood during September and October.



HIBISCUS WAIMEÆ, NOW FLOWERING IN THE MEXICAN HOUSE AT KEW.

Flowers white with conspicuous red staminal tube.

Hibiscus schizopetalus, another member of the same genus, flowering close by, differs largely in habit and growth from H. Waimeæ. A native of Tropical Africa, it requires a fairly warm place, and the flowers are very few on wood that has been cut back, but on shoots left full length they are plentiful. The habit of the plant is drooping, and the flowers are quite pendulous. As its name implies, the petals are finely cut or laciniated, and the brilliant orange red petals are very pretty and curious. The filaments of the stamens are united, and extend 2 inches below the flower. The leaves are small and dark green. The habit of the plant, which grows very freely, is not one that can be kept very well in shape, and it requires a lot of room.

Aster paniculatus.—This Michaelmas Daisy is not so often seen as it deserves. Among the many purple kinds its cream white flowers, in spreading panicles from 6 inches to 10 inches across, are a pleasant break. We have it in the borders for the September Asters, and to add to its effect we have Clematis Flammula, of nearly the same colouring, running through and over it. The flowers of the two plants are so nearly alike that the patch makes a sort of mystery of a pleasant, mildly puzzling kind. The Aster grows about 5 feet high.

The Herbaceous Border.—Now is the time to overhaul the herbaceous border, and in these times it is impossible to do more than check the over-luxuriance of the more rampant occupants and make good those that have failed from any cause. Montbretias should not be allowed to remain more than two years, otherwise the amount of flower to foliage is disappointing. Michaelmas Daisies in most sorts, Helianthuses and others of similar habit also need controlling and reducing in size. A dressing of thoroughly rotted manure should be applied, and either dug or forked in between the plants. It is not at all harmful, perhaps beneficial, to sever roots in the process, and when finished—as it ought to be before the cold rains of winter set in—one has the satisfaction of knowing that the borders are out of hand for many months, and, besides, ready for another season's campaign.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

THE DUNWICH ROSE.

I READ in THE GARDEN that a description of the Dunwich Rose was required. I enclose the following, hoping it will be useful: The Dunwich Rose is a very nearly true Rosa hispida. It is bushy, and never grows more than 2½ feet to 3 feet high. Leaflets are seven to eleven, serrated. This Rose is almost extinct. It was no doubt growing in the ruins of Dunwich, and has been cultivated. The flower is semi-double and grows in groups of three; almost white all over, but has a tinge of yellow. The fruit is very dark red, almost black.—DUNWICH, *Henham Hall, Wangford, Suffolk.*

[As pointed out by Mr. James Britten, issue August 4, page 304, there can be little, if any, doubt that the plant is Rosa spinosissima. The description of flower and fruit given by Viscount Dunwich agrees. The flowers are often double or semi-double, but we doubt whether they always grow in threes. Rosa hispida is closely allied to and sometimes placed as a variety of R. spinosissima, but for garden purposes it is distinct.—ED.]

ROSE SANDER'S WHITE.

I CANNOT agree with Mr. Easlea that Sander's White is the best white rambler. Granted, the blooms individually are white and shapely, while the freedom of flower is all that could be desired and the growth is quite of the best, but it has a serious fault, namely, the blooms after being open a few days die and do not drop off the cluster, but remain there brown and quite disfigure the trusses. If one could remove these dead, unsightly petals, all would be well, but that, I fear, is too much to expect. I wonder if Mr. Easlea has noted this defect. If another white Wichuraiana is wanted besides Mrs. Littleton Dewhurst, I suggest Mrs. W. H. Walsh, a pure white rambler, but rather weak in growth.—E. M.

BEGONIA HATTON CASTLE BEDDER.

I RATHER suspect that this fine bedding Begonia is little known South of the Tay, not to say South of the Tweed, although I found it freely used at Hopetoun House, West Lothian, when Mr. Hay (now Superintendent of Greenwich Park) was head-gardener there. It is certainly the most effective bedder that I have seen, and I have been afresh struck with its beauty while rusticating in Aberdeenshire. It is of the old Vesuvius type, but much superior to that once-popular variety. The medium-sized orange scarlet flowers on slightly pendulous stalks are produced in great abundance, and a bed or group of it compels attention from even the unobservant passer-by. This fine variety is readily propagated either by cuttings or division, and is not at all fastidious as to soil.—CALEDONIA.

MARROWS AND PUMPKINS ON A READER'S LAWN.

RAMBLER ROSE MRS. LITTLETON DEWHURST.

A REALLY good white rambler would be much appreciated, and until such a boon arrives we must perforce make the most of those we have. White Dorothy varies a good deal in different districts. Here on the Forfarshire coast, where the soil is light and sandy, it does remarkably well, and the flowers are a purer white than I have seen them when grown on the heavier soils inland. Mrs. Littleton Dewhurst is, however, an improvement, and a variety well worthy of a place in any garden. It is not often met with; whether from lack of its merits being known or for other reasons one cannot say. I did not know it was a sport from Lady Gay, having had the impression that it partook more of the Tausendschön character, but in this I may be wrong. Whatever its parentage may be, it is an excellent variety for decorative purposes.—W. L.

ESCALLONIA DONARD SEEDLING.

ADMIRERS of the Escallonias would, I am sure, welcome some information from any dweller in the colder parts of the United Kingdom who has tried Escallonia Donard Seedling in the open. It was exhibited at Holland House Show in 1916, and received at that time an award of merit from the floral committee of the Royal Horticultural Society. Its good qualities are attested by the fact that the vote in favour of this award was unanimous. It ought to be perfectly hardy, seeing that its parents are E. langleyensis and E. philippiana, both of which are generally hardy in most places, the latter also standing in districts where most of the genus succumb to the severe winters we experience at times. Its white, rose-tinged flowers, which surpass in size those of its parents, are most pleasing.—S. A.

SALT OR LIME?

THE letter of A. T. Johnson in reply to my notes on "The Making of Manure" is interesting. I have not recently tried salt for mixing with vegetable matter, but when I did so some few years ago and applied it to flowers I did not find it had the good effect which "A. T. J." describes. Salt, too, is expensive here, whereas lime costs practically nothing; and though it may destroy a little of the humus if too much lime is put on the heap, I find the resulting material is very good and rich. I never use soot and poultry-manure for mixing with the vegetable matter, as a waste of valuable ammonia would take place whether lime was used or not. The rain would wash out the ammonia and with it the other soluble salts of the poultry-manure. I do not agree with the statement that "lime favours the development of scab in Potatoes." To test this some Potatoes were planted here in land that had been heavily limed, and in each hole made for the sets more lime was put. Result: Hardly any scab. On some other land which was excessively damp and where but little lime had been used, there was much scab. I agree with "A. T. J." that Seaweed is valuable as a manure (when it is obtainable), especially for Peas, and, as he will have seen, I have several times referred in THE GARDEN to its use.—E. T. ELLIS, *Weetwood, Ecclesall, Sheffield.*

A REMARKABLE CROP OF VEGETABLE MARROWS AND PUMPKINS.

ENCOURAGED by one of your early numbers of this year to grow Pumpkins and Vegetable Marrows, I decided to grow more than double the quantity I used to have, but I found it difficult to spare the required ground. To overcome this difficulty I turned up a part of our lawn, the size of which is only 210 square yards. The ground was rather poor and stony, but through hard labour the site was soon in good order. In the second week of June I planted twelve Vegetable Marrows and nine Pumpkins, and God gave the increase, as is shown in the photograph, which was taken on September 12. I got sixty-five Vegetable Marrows of good size, and twenty-eight large Pumpkins, the heaviest weighing 64lb. and the three next 63lb. I think this crop amply compensates for the labour, and the publication of this may be an encouragement to other readers of THE GARDEN.—F. ERKENWALD, O.S.B.

PYRUS SARGENTII.

THERE is such a bewildering list of trees and shrubs in catalogues under the heading Pyrus that it is difficult to make a choice, especially as most of them are beautiful. Three autumns ago Mr. George Paul sent me a nice bush of this species, for which he had received an award of merit from the Royal Horticultural Society, and in the last two springs it has been a bounteous mass of creamy flowers. During August and September its brilliant little fruits—each about the size of a good-sized culinary Pea—make it a striking object by reason of their profuseness; but, alas! the birds love them, and the bush was almost stripped (September 25) when I tried to gather a spray to send you. As a culinary fruit it has, I should say, no value, being too small and too seedy.—ARTHUR R. GOODWIN, *Kidderminster.*

THE CULTURE OF FRUIT TREES.

MR. E. A. BUNYARD, in his interesting remarks on the above subject, glides over one of the most important details in growing fruit trees successfully, viz., that of trenching. He considers trenching in the *great* majority of soils unnecessary. I fear I must disagree with him on this point. Except in sand, peat, or light loam, trenching is an absolute necessity. He seems to infer that trenching is done to encourage downward rooting. That is not so. It is not necessary to tell Mr. Bunyard why trenching is done; but it may be wise to acquaint any inexperienced reader who sees Mr. Bunyard's note on this phase of the subject, and thus sees an opportunity of "slipping over" the trenching so easily, that I would endeavour to persuade any with such thoughts to hesitate first before committing so grievous a mistake where the soil is heavy, cold and retentive of moisture owing to overlying a subsoil of clay or a heavy, impervious approach to clay. Trenching in such conditions is not done to encourage the roots to go down; neither will they if other conditions are properly provided for their remaining near the surface. Trenching is done to provide the means of quick drainage of surplus water from heavy rains, which otherwise would create stagnation about the roots, which is the most fertile cause of canker in the branches and shoots yet defined. Canker is one of the most fruitful sources of disappointment when endeavouring to grow such varieties of Apples as Cox's Orange Pippin, Ribston Pippin and many desirable kitchen varieties. Therefore, with all due deference to Mr. Bunyard, I would strongly advise beginners to seriously consider the matter if they have soil conditions of a similar character to those to which I have alluded.—E. MOLYNEUX.

COLOUR DESCRIPTION.

THERE are two statements in Mr. Engleheart's letter which appeared in THE GARDEN of September 29 that need correction. First, he writes: "It is true that even on the spectrum red merges on either side into orange or violet." What Mr. Engleheart probably meant to express was that the red of the spectrum might be made to merge into the violet, for a glance at the rainbow or other spectrum reveals that violet never occurs beside the red to merge into it naturally, but is situated at the furthest possible point from the large, slowly vibrating and less refrangible red rays. If a ray of white light be passed through a piece of purple gelatine, the beautiful purple colour may be thrown on a screen. By placing a prism in the beam of purple light, the colour is spread out into its constituents; there is red at one end, there are the blue and violet at the other. But in between, where orange, yellow, green and peacock colours should come, there is darkness. The purple stain has cut off all these, but lets the others go by. Secondly, the ideas of the Ancient Greeks about physics were as primitive as their theology. Though they may only have possessed one word to denote two totally distinct things, and may have imagined, as Mr. Engleheart writes, that "colour is a matter of surface," the truth is that colour is emphatically *not* a matter of surface. Professor Tyndall, in his book "On Light" (page 33), writes: "Solar light reflected from the surface of even a black body is white," as, for instance, sunlight reflected from a dark cloud or black smoke. "The second portion of light *enters* the body, and upon its treatment there the colour depends. . . . The flower owes its colour, not to the light reflected from its surface, but to the light which has entered its substance, which has been reflected from within, and which in returning through the substance has had the other constituents of solar light extinguished." During the progress of this world war our language has received many strange additions and modifications, but the evolution of the colour sense seems to have been more rapid than that of language in Great Britain, since we can perceive what we cannot well describe. Was it not in the *Nineteenth Century* that the late Mr. W. E. Gladstone wrote an article attempting to show from a study of Homer that the Ancient Greeks were unable to perceive the colour known to us as blue? If so, we have made progress, though there is reason to believe that with human vision a wide variation exists in the power to perceive the minute and rapidly vibrating blue and violet waves which lie at the extreme end of the spectrum.—M. D.

THE NAME "FORMAL GARDEN."

IT grieves me to have ruffled the serenity of Mr. Dillistone's temper by misunderstanding, as he thinks, his remarks on the formal garden in his article of June 30. No doubt Mr. Dillistone intended to make his meaning clear to the meanest intelligence; but below the meanest there is evidently a meaner, for I have read his article again and find the view there set forth to be in substance precisely that of Mr. Robinson's young lady. If we imagine Mr. Dillistone paying a visit to Gravetye Manor and holding a discussion on formal gardens with the distinguished owner, it will not be difficult to proceed further and imagine the general drift of the conversation: "Why, Mr. Robinson, I perceive you have terraces, you have straight lines, you have herbaceous borders. I see everywhere, if I may be permitted to use the expression, an ordered severity of design. In short, I find that your young lady, who must now be approaching years of discretion, was entirely right when she said that you had a formal garden." To which the Lord of the Manor would reply: "It is true that I have terraces, where the lie of the ground requires them; and straight lines, where crooked lines would look foolish; true also that I love herbaceous plants and have borders of them where I can, straight or otherwise. 'Ordered severity of design' strikes me as a particularly noble expression, though I am not quite sure what it means. Is it, perhaps, terraces, straight lines and herbaceous borders over again? There is design, of course, in every garden that is a garden and not a chaos, and if the execution is not slip-shod, there must be such order and severity as the design requires. All these things you may find in the gardens of Gravetye Manor. Yet if you would understand what a formal garden is *not*, circumspice, and now I will tell you what, in my opinion, a formal garden is; or, better still, I will give you a recipe for making one, though you must remember that recipes for formal gardening, like recipes for pot-pourri, vary within limits, the dominant note, however, being the symmetrical balance and repetition of geometrical forms. Take, then, a fairly large piece of level ground. Trim it to a mathematical shape—square, circle, oblong, hexagon, it matters not what, provided it is mathematically exact. We will suppose, therefore, that the oblong is the form you have chosen and marked out. You must now proceed to edge it or hedge it with some uniform edging or hedging—Box, Yew, stone, bricks, or tiles. Exactly at the middle point of your oblong place some work of art of reasonably durable material—a sundial, a statue of Venus Anadyomene, or a basin and fountain with a Cupid or Triton in stone or lead to spout the water. Now take your compasses, and at one end of your oblong, no matter which, mark out in each corner a circle, to be subsequently edged and planted. Having done this, take next a graded measuring-rod, and in the space between the circles and equidistant from them mark out an oblong, planting and edging as before. In this way work over your surface, cutting out at regular distances mathematical shapes in variety (circles, diamonds, volutes, &c.) until you get as near the Venus as it is desirable to go. That done, one half of the formal garden is finished. Next take the ground on the further side of the Venus and proceed *da capo*. The ground space between the figures may be in any medium you choose—grass, gravel, flags, powdered brick, or cement. The figures thus formed may be planted with whatever plants and in whatever order you please; the garden will always be a formal garden. But if you desire the *ne plus ultra* in formal gardens—the very 'glass of fashion and mould of form'—you must be as geometrical with your plants as with your plots; that is, you must make circles, stars, half moons, lines and scrolls of Echeverias, Sempervivums, Lobelias, Geraniums, or other prim and easily managed flowers. Then you will have a formal garden indeed—a precious mosaic which upholsterers and haberdashers will flock from all the points of the compass to see." Such I imagine to be Mr. Robinson's conception of the formal garden. If it is not so, I ask his pardon. It is, at any rate, a reasonable conception, though no doubt there are others.

I think I must be allowed a few lines on the subject of my *nom de plume*, the right to which has been impugned. I have no right apparently to my pseudonym, unless I am a peer masquerading as a cottage gardener. Absurd enough, surely, and yet no kind of eccentricity is impossible to our peerage. As regards the pseudonym, however, Mr. Dillistone has reason on his side, and I accept his "implied" censure and correction with the proper docility. "Somerset," when I come to consider it, is ambiguous and misleading, the more dangerously so because, as my adverse critics sometimes hint, there is in my style and manner something remotely ducal. Thus, for example, I am exceedingly careful with the final "g" in my participles—that is, to omit it—a characteristic trait of dukes, as we know, and especially of duchesses. I now, therefore, renounce the pseudonym of "Somerset." I have written it for the last time, and am for the moment nameless. Yet some such name I must have. My shrinking temperament shrivels to think of the fierce light that beats round the Dillistone identity. A pseudonym I must have. What shall it be? George? Mary? Alexandra? Simple names, full of charming suggestion, and owned by dozens of my acquaintance who would willingly lend them. But it may not be: in these seeming-simple appellatives the gimlet eye of Mr. Dillistone would detect unworthy aspirations. Victor Emanuel?—too long. Alfonso?—too romantic. Constantine?—too contemptible. In the storm and stress of a revolution I might appropriate "Nicholas" unperceived, but I will steal no man's name when he is under a cloud. "Nicholas," however, suggests "Nick"—a strong, sulphurous monosyllable with something about it, I know not what, of "implied familiarity." But "Nick" is barred. Mr. Dillistone would smell brimstone, and accuse me of posing as a fallen archangel. Yet S-m-rs-t has to go, though this renunciation of the territory in which lies my formal garden tugs at my vitals. Let us rather effect a compromise. My pseudonym shall shed its tail (such a poor little tail, after all!) and shall be from henceforth in perpetuity—SOMERS.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

The Genus Juniperus and Its Commercial Importance

The species herein mentioned are chosen for their uses, but most of them are of slow growth and it is doubtful if their cultivation would prove a financial success in this country.

THE genus Juniperus includes many species of trees and shrubs widely distributed in the northern hemisphere and occurring south of the Equator in the mountains of Eastern Tropical Africa. They are found throughout Europe, in Asia Minor, Asia from the Himalayas northwards almost to the limit of shrub life, North America, the West Indies, Northern Africa, East Africa, the Canary Islands and the Azores. They are often of slow growth, and it is doubtful whether any species planted under forest conditions in the British Isles would prove a financial success. In many instances the wood is red or yellow in colour, and fragrant. It is sometimes used for building purposes and for cabinets, but its most important use is for the casings of lead pencils, no other kind of wood having been found so suitable for this purpose as the better grades of Juniper. When too small or knotty for other uses, it forms very serviceable fences. Oil, used for perfumery, &c., is obtained from the wood by distillation, and may be also procured from the leaves and fruits of certain species. Medicinal properties of a diuretic character are possessed by the Junipers. The following species are of economic importance:

Juniperus barbadensis, Linn. (Barbados Cedar, Southern Red Cedar).—This is found in the West Indies and in the Southern United States, where it often grows in swamps near coastal rivers, and under the best conditions attains a height of 50 feet with a girth of 6 feet, its average size being 30 feet. The wood is popular for pencil-making.

J. bermudiana, Linn. (Bermuda Cedar, Bermuda Red Cedar), is found in Bermuda, where it grows under a variety of conditions, both in brackish swamps and on limestone hills. Average-sized trees are 40 feet to 50 feet high. The wood is valuable for shipbuilding and for furniture.

J. californica, Carr. (White Cedar, Sweet-berried Cedar, Californian Juniper).—A bush or small tree found wild in California, Arizona, &c. The wood is used for fence posts.

J. Cedrus, Webb. and Berth (Canary Islands Juniper, Canary Islands Cedar, Sabina Tree).—A native of the Canary Islands, where it ascends the mountains to a height of 7,000 feet to 9,000 feet, sometimes attaining a large size. Dr. G. V. Perez of Teneriffe considers it might be planted with advantage under forest conditions for its timber.

J. chinensis, Linn. (Chinese Juniper).—This is quite hardy in the British Isles, and is largely grown as a decorative tree or bush. The wood is durable and useful for many purposes, but is not obtainable in quantity, and is of no importance in the timber market.

J. communis, Linn. (Common Juniper, Ground Cedar).—Widely distributed through Europe, Northern Asia and North America. In some Continental countries it attains a height of 30 feet to 40 feet. The wood is used for fencing, for milk pails and other domestic articles, and for walking-sticks. The oil is used for medicinal and for flavouring purposes. The fruits have been of commercial importance (for use in the distilleries) for a long period.

J. drupacea, Labil. (Drupe-fruited Juniper, Syrian Juniper).—Native of Asia Minor and Syria, where it often grows 60 feet high. Although the timber is reputed to be of good quality, the consumption is apparently quite local.

J. excelsa, Bieb. (Grecian Juniper).—Widely distributed from the Balkans through South-East Europe to Asia Minor and Syria. In Asia Minor it attains the maximum size—70 feet to 100 feet in height and 4 feet in diameter of the trunk. The timber is reputed to be of good quality, and has been recommended for railway sleepers.

J. formosana, Hayata (Prickly Cypress).—A species spread over a considerable area in China and also found in the mountains of Formosa. It was introduced in the British Isles about the middle of last century, but is rare in cultivation. The timber only appears to be used locally.

J. macrocarpa, Sibth. (Large-berried Juniper).—Found as a bush or a small tree throughout Southern Europe and in some parts of North Africa. The fragrant wood appears to be used with that of J. Oxycedrus for distillation.

J. macropoda, Boiss. (Himalayan Pencil Cedar).—Widely distributed from Nepal to Afghanistan, often from 40 feet to 50 feet high, with a trunk 6 feet to 7 feet in girth, but sometimes much larger. The wood is fragrant and moderately hard; it is used for wall-plates, beams and fuel. A closely allied tree from the same region is J. religiosa.

J. mexicana, Schiede (Rock Cedar, Juniper Cedar, Mountain Cedar, Cedar).—This species forms forests on the limestone hills of Mexico and Texas, where it sometimes reaches 95 feet high. The wood is used for general construction, fencing, sills, telegraph poles, railroad ties and fuels.

J. occidentalis, Hook (Canadian Juniper, Californian Juniper, Western Red Cedar, Yellow Cedar).—Widely distributed in North-West America from Canada to California. The wood is used for fencing, as it lasts well in contact with the soil.

J. Oxycedrus, Linn. (Sharp Cedar, Brown-berried Juniper).—Common throughout the Mediterranean region from sea-level up to 5,000 feet to 6,000 feet, usually as a shrub, but sometimes as a small tree. In Italy it occupies considerable areas on sand dunes. The principal use of the wood is for distillation ("oil of cade").

J. pachyphlæa, Torr. (Oak-barked Cedar, Thick-barked Cedar, Mountain Cedar, Chequer-barked Juniper).—Found wild in the dry regions of Texas, New Mexico and Arizona.

J. phœnicea, Linn. (Phœnician Juniper).—An important tree in the Mediterranean region; its timber is used for building purposes and for firewood. It varies in height from little more than a shrub to a tree of 40 feet.

J. procera, Hochst. (East African Juniper or Cedar).—Found wild on the mountains of East Africa. The wood, of light weight and nearly as soft as Red Cedar, is a likely substitute for that of J. virginiana for pencil-making.

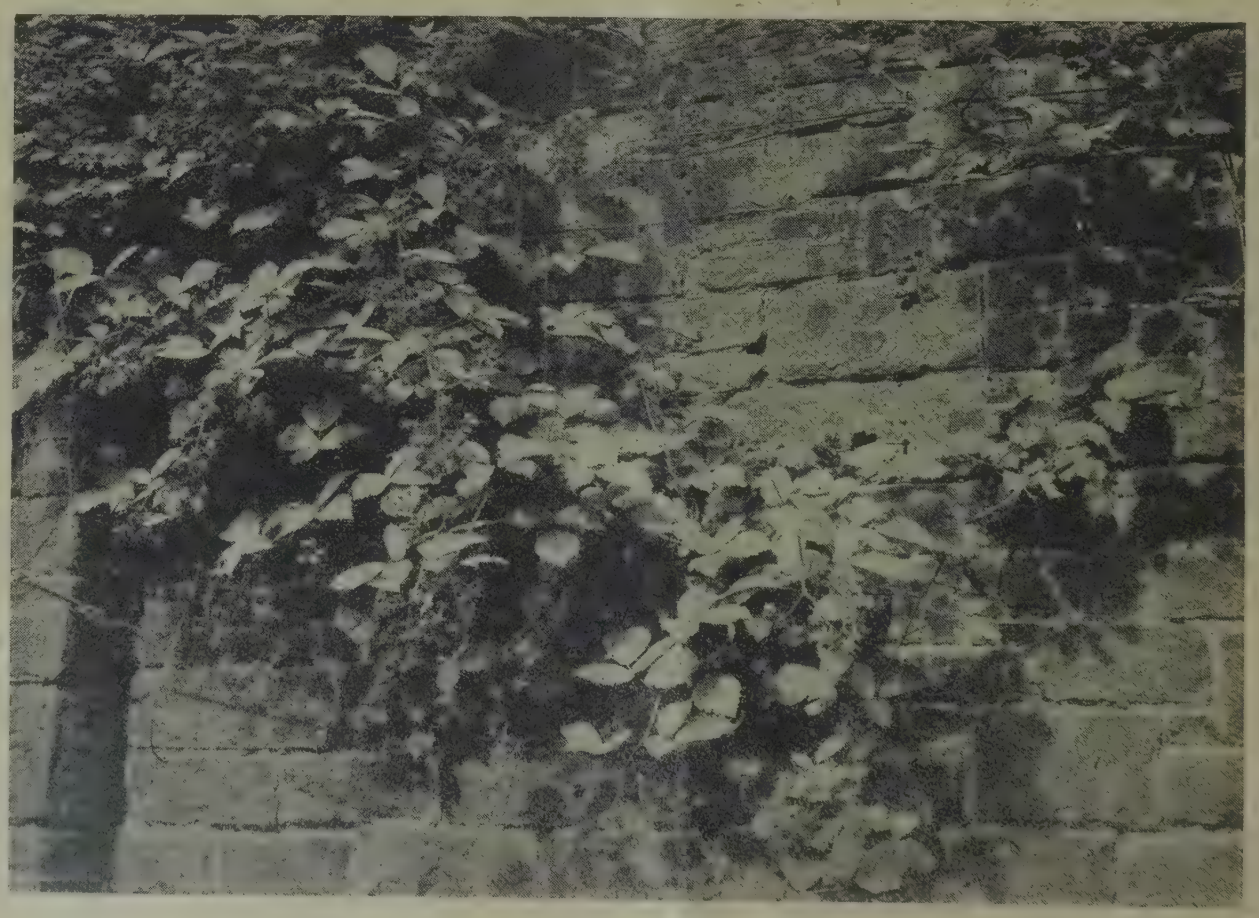
J. recurva, Buch.-Ham.—A tree native of the Eastern Himalaya. The wood is quite equal to the best pencil Cedar, but is only used for burning as incense in the Buddhist temples. J. squamata from the Western Himalayas, China and Formosa is a closely allied species with very similar wood.

J. rigida, Sieb. et Zucc.—A shrub or small tree native of Japan. The wood has good lasting properties and is put to many local uses.

J. Sabina, Linn. (Savin).—A shrub or bush distributed through Central and Southern Europe, the Caucasus, North Persia and North America. The wood is of little value except for walking-sticks and firewood. From the shoots and leaves a medicinal oil (savin oil) is extracted.

J. scopulorum, Sarg. (Red Cedar, Rocky Mountain Red Cedar).—A small tree native of the Rocky Mountains. The wood is useful for fencing, posts, &c.

J. thurifera, Linn. (Spanish Juniper, Incense Juniper).—A tree distributed through Spain, Portugal, Algeria and Morocco. The wood does not appear to be used other than locally, although



AN ENGLISH BRAMBLE, RUBUS KOLLERI, GROWING OVER A HA-HA WALL AT NANDANA, PENRITH.

[illegible] virginiana, Linn. (Cedar, Pencil Cedar, Red Cedar, Virginian Cedar).—This species is very widely distributed in North America, and is the most satisfactory of the large-growing Junipers in the British Isles. It varies from a bush to a tree 120 feet high with a diameter of 3 feet. A very valuable species from a commercial standpoint. Its wood is used more often than that of any other kind for the casings of lead pencils. Knotty wood, unsuitable for pencil-making, is very useful for fences, railway sleepers, &c. The shavings and dust from pencil factories are distilled for the fragrant oil, which is used in perfumery. The shavings after distillation make an excellent substitute for Cocoanut fibre as a plunging material for horticultural purposes, as fungi do not grow upon them.

J. Wallichiana, Hook f. (Black Juniper).—A variable species in the Himalaya. The wood appears to be used locally for building purposes.

W. DALLIMORE, in the *Kew Bulletin.*

NATIVE BLACKBERRIES—CULTIVATED

To those who contemplate the introduction of a few plants of our native Blackberries, perhaps the first and most important point is to procure canes of only those varieties that are the most productive and with the largest fruit, as well as being early and vigorous in their growth.

THE question is often asked, "Why do we not cultivate our native Blackberries more extensively?" They will be found to give greater satisfaction than the many American varieties, which cannot be said to be altogether suitable for our fickle English climate, especially in the north of our island.

Probably many will say, "Why take up space in our gardens when we have them growing in our lanes and waste places?" Quite true; but this answer is not quite satisfactory. In the first place, a little liberal attention in the way of tending and manuring increases the production as well as the size of the fruits. They can also be left to ripen completely instead of being gathered when half ripe, as is so often the case in positions where they are anyone's property, and where motor dust and other objectionable things spoil them.

It may astonish many who are not botanists to know that some hundreds of varieties of wild Blackberries exist in the British Isles. True, many are too rare as well as useless for our purpose. Now that plants are in fruit, the most approved variety should be selected and marked for removal into the garden in the autumn or early spring.

The variety of which illustrations are given possesses all the good qualities necessary. It is the variety Rubus Kolleri, which may be found growing in many parts of England. It is very productive, early, and bears large fruit. The stems of this variety are densely covered with many straight hairs and prickles of various lengths. The writer has the plants growing and hanging down over a high ha-ha wall facing south, a position very suitable, and where the fruit can be easily gathered.

When once a few canes are planted, all that is necessary to extend a row of plants is to bury the tips of the long shoots in the soil, where they soon form roots and make nice plants by the following year. In February or March all old wood should be cut out and the new shoots arranged where they can obtain equal light and sunshine, and the plants be top-dressed with manure. Odd corners and waste places in most gardens can with a little trouble be made both useful and ornamental by planting good varieties.

Penrith. J. C. VARTY-SMITH.

CULTIVATED NATIVE BRAMBLE, RUBUS KOLLERI.

Fruit very large.

NOTES FROM A COUNTY DOWN GARDEN

THE cold winds are sweeping through the gardens and the first leaves are falling one by one, and if it were not for the evergreens the landscape would soon have a woe-begone look. It is here that our nurserymen come in with their beautiful, ever-standing foliage trees in gold, silver, grey and myriad greens. Anyone planting should never omit to plant trees which appeal to the eye in the dark days of winter. There are many of them; even the stems of the Deciduous Dogwoods are beautifully crimson against a belt of Pines.

This has been a good year in most gardens here, but certain plants have not had enough sun to give very good returns. Vegetable Marrows, for instance, and the early Chrysanth mums are coming in later than usual. I notice a rather deplorable practice—that is, the severe defoliating of Tomatoes under glass. I do not think this is desirable, as it undoubtedly checks the growth and hurts the vitality of the plants. Tomatoes can be fruited in 10-inch pots most satisfactorily for all ordinary purposes, and the pots are much more handy than boxes. The secret is firm potting and frequent top-dressing with strong old manure, rammed home. Sweet Pea growers will soon be sowing seed in small pots for next year. Old fibrous loam is perhaps best, with a trace of old hotbed manure and sand; no drainage is necessary in these pots. The very best results can only be obtained by the most scrupulous attention to detail—one or two seeds to a pot—but everyone does not go in for exhibitions, so such do things more moderately. Wallflowers are being planted out, and they, too, require attention in order to have good spikes of bloom, so give them a dressing of soot or guano through the winter. In fact, everything requires attention if fine bloom is the desideratum. Growing bulbs in fibre is a nice occupation for the ladies of the house, but it must be remembered that the roots must be well in growth and the tops, too, before the bulbs are brought into the light. The fibre must not be allowed to get dry. In the advertisements in THE GARDEN I note that home-grown early Tulips are on sale, as well as quite a fine selection of other bulbs. This is very encouraging for a good home industry.

Holywood, County Down. WALTER SMYTH.

THE GARDEN OF PEACE

(*Grasmere, August,* 1917.)

When all the August Roses blow
And the Gladioli in a row
Unplait their green and break to flame
That puts fair Dorothy's bloom to shame,
I wander down the well-kept sward
Which gallant Phloxes grace and guard,
And while their autumn scent is sweet
Gaze on the Rainbows at my feet,
White, purple, pink and crimson seen
Mixed with the touch of gentlest green.

I wonder if by any Lake
Is such a sight for hearts that ache,
And praise the hand that set His bow
In clouds, but thought of earth below;
Who in this cloudy day of strife
Gives us new hope of happier life,
When peaceful as these Phloxes are
The nations shall forget to war,
And in unjealous companies
Shall bid us dream of Paradise.

Bloom Phloxes: bloom by Grasmere shore
To give us comfort from earth's store,
May the dull eyes of man behold
God's love, God's beauty here enscrolled,
And take to heart the lesson given
That peace not war is willed by Heaven.

THE CULTURE OF FRUIT TREES.—III

(*Continued from page* 422.)

THE APPLE. A UTILITY LIST AND A QUALITY LIST.

HAVING now discussed generalities, we pass to the fruits in detail, and to give the place of honour to our most useful fruit we will consider first the Apple. With a little care we can have Apples of British growth during every month of the year. Crabbed age if the form of French Crab and youth in Red Juneating can meet, if not dwell together.

Much has been written on the "best" Apples, and such list-making is a never-failing resource to some editors when their correspondence column flags a little. When artists are agreed as to the "best" painters, and artistes upon the greatest vocalists, we may hope for agreement in the fruit garden. I will dodge some of the difficulties by giving first a utility list and then a quality list; the former is for the man of limited space whose trees must be sure starters.

Utility List (Cooking Fruits).

Early Victoria (July-August).—Cooks to a frothy white cream, a capital grower, and as sure to crop as any.

Stirling Castle.—A round, green fruit, cooks frothily, dwarf habit, and generally excellent for small gardens. Specially designed for the cook's Apple-paring machine.

Rev. W. Wilks (September-November).—A large fruit, cooking well, dwarf and vigorous, a coming Apple. Under the breath it may be mentioned as a first-prizer at the local show.

Royal Jubilee (November-December).—A tall, even, yellow fruit, remarkably fertile, starts to flower very late, very compact habit.

Lane's Prince Albert (January till May).—The small garden cooking Apple *par excellence*, cooks frothily, extraordinarily prolific, and easily managed as it requires little pruning.

Utility List (Dessert).

Gladstone (Early August).—A bright red, rather uneven fruit, but welcome in the August heats (when present).

Langley Pippin (Mid-August).—A pretty, conical fruit, gaily striped, remarkably prolific, quite agreeable flavour.

Worcester Pearmain (Early September).—Needs no description but perhaps a defence. Detractors should get a really ripe fruit, not merely a coloured one, and reconsider at leisure.

James Grieve.—A *rara avis*, quality, quantity and beauty combined; September-October and till Christmas in more Northern climes. The best-flavoured Apple of its season, and a worthy monument to its veteran raiser.

Allington Pippin (October-December).—Flavour brisk or sprightly (which being interpreted means a little acid), attractive to the eye and to most palates. A great cropper.

May Queen (January-March).—A crisp, yellow-fleshed fruit, of good quality and red and russet looks. Comes a good deal before the swallow dares, but is as unfailing in its appearance. This is *the* winter dessert Apple for small gardens, in my opinion, and I back it heavily.

Quality List (Cooking).

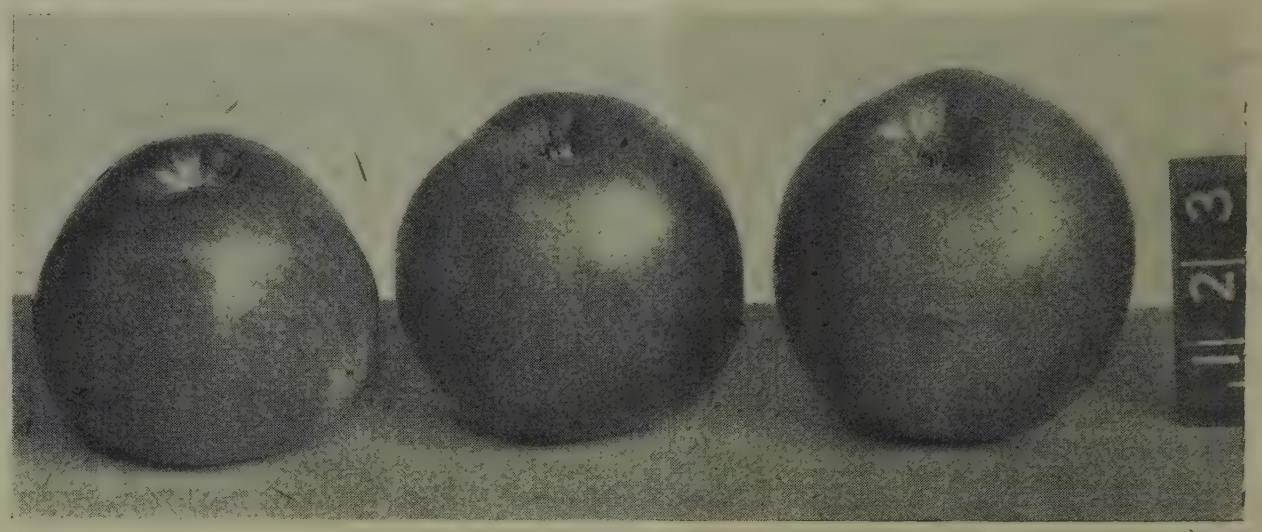
Early Victoria.—The connoisseur must share this with his less fortunate beings, and also

Rev. W. Wilks.

Peasgood's Nonsuch (October-November).—Almost too beautiful to hide in a dumpling, but well worth the effort.

Golden Noble (November-December).—Cooks golden yellow, with all the merits of a Wellington, but not quite the acidity. Will not thrive everywhere, but no epicure will object to that. *Voluptates commendat rarior usus.*

Wellington (December to March).—For general use quite unequalled, in my opinion. Lime and sulphur spraying has delivered this from its worst enemy, the black scab.



APPLE PEASGOOD'S NONSUCH FROM HERTFORDSHIRE.
Average weight 1*lb. each.*

Beauty of Kent (December to February).—A flavour all its own, and highly to be recommended. Not very fertile on all soils.

Such are the Apples, in my opinion, most worthy of baking and concealment under a crust. For sauces, Wellington, Golden Noble and French Crab; and for compôtes, Cox's Orange Pippin and Roundway Magnum Bonum (cries of "Shame") may worthily be sacrificed. Lucullus did not know everything!

Quality List (Dessert).

The connoisseur will not regret the fact that he must delay his pleasure for a month or so after the mere utility grower; he knows well that anticipation is no small part of his pleasure.

James Grieve.—Taken *au point*, the most fastidious will accept this as a worthy entrance to the Apple season.

St. Everard (September).—A new-comer, but I fancy it will keep its place in this list. Most delicious.

Margil.—Quite of the aristocracy, a little tender, not very prolific, but quality first rate and always to be relied on. Related to the Cox's family.

Cox's Orange Pippin (November to March).—"We needs must love the highest when we see it."

Ribston Pippin (November to March).—Needs no words. Those who fail to grow it well should see it has a liberal water supply.

Orleans Reinette (December to March).—This Apple will, I fancy, soon be ranked in the first half-dozen best for flavour. It is all a winter Apple should be.

Claygate Pearmain (December to March).—Rather softer flesh than the preceding, but a choice between them would be difficult.

King's Acre Pippin.—A new-comer quickly forging its way to the front. Of Sturmer flavour, only more so.

Reinette du Canada (February to May).—An Apple of very refined flavour, well worth the trouble of bringing to perfection. A warm corner, leaf-mould, and careful storing should be given.

Roundway Magnum Bonum (December to March).—At first sight a burly intruder in an aristocratic company, but its merits are unquestionable.

Having now made my suggestions as to varieties, it remains to consider the form of the trees. There is nothing more useful for the average garden than the open bush, which is, or should be, simply eight or nine cordons radiating from a single stem. It has the simplicity of the cordon plus the advantage of covering a larger area. Espaliers in the open give fine fruit, but not better than the bush form mentioned above. Apples are best grown away from walls South of the Trent.

Single upright cordons are easy to manage and give a large return, and are in one way better for edging the borders than espaliers, as at 4 feet apart they do not block access to the central quarters. They may require lifting once or twice, but can be kept down to 6 feet or 8 feet, and once they fruit will give but little trouble.

Nearly all the varieties mentioned will do well in standard form in the garden and where space allows; well-ripened fruit is gathered from such trees where carefully looked after. Very dwarf growers, such as Stirling Castle and May Queen, will be best in bush form. E. A. BUNYARD.

(*To be continued.*)

Apple Blenheim Orange

I AM sending an article copied from the fifth edition of "Hogg's Fruit Manual" (1885). If I was restricted to plant only one Apple tree, culinary and dessert, Blenheim Orange would be my choice, on the Paradise stock. I would lift and replant it every year if necessary, until I got the better of its strong growth, along with summer pruning. T. McP.

"BLENHEIM ORANGE.

"'The following interesting account of this favourite variety appeared some years ago in the *Gardeners' Chronicle*:

"'In a somewhat dilapidated corner of the decaying borough of ancient Woodstock, within ten yards of the wall of Blenheim Park, stands all that remain of the original stump of that beautiful and justly celebrated Apple, the Blenheim

Orange. It is now entirely dead, and rapidly falling to decay, being a mere shell about ten feet high, loose in the ground, and having a large hole in the centre; till within the last three years it occasionally sent up long, thin, wiry twigs, but this last sign of vitality has ceased, and what remains will soon be the portion of the woodlouse and the worm.

"'Old Grimmett, the basket maker, against the corner of whose garden-wall the venerable relict is supported, has sat looking on it from his workshop window, and while he wove the pliant osier, has meditated, for more than fifty successive summers, on the mutability of all sublunary substances, on juice, and core, and vegetable, as well as animal, and flesh, and blood. He can remember the time when, fifty years ago, he was a boy, and the tree a fine full bearing stem, full of bud, and blossom, and fruit, and thousands thronged from all parts to gaze on its ruddy, ripening, orange burden; then gardeners came in the springtide to select the much coveted scions, and to hear the tale of his horticultural child and sapling from the lips of the son of the white-haired Kempster.

"'But nearly a century has elapsed since Kempster fell, like a ripened fruit, and was gathered to his fathers. He lived in a narrow cottage garden in Old Woodstock, a plain, practical, labouring man; and in the midst of his bees and flowers around him, and in his "glorious pride," in the midst of his little garden, he realised Virgil's dream of the old Corycian: "Et regum equabat opis animis."

"'The provincial name for this Apple is still Kempster's Pippin, a lasting monumental tribute and inscription to him who first planted the kernel from whence it sprang.'"

Some Autumn Resurrections

THOUGH it is the end of September, we are enjoying a second June, the reason being so many plants were sent into quiescence during the baking days of the later summer that they have awakened refreshed to the call of autumn rains. The Campanulas are especially lovely in the rock garden. C. muralis is a mass of colour, and the little C. pusilla, in both blue and white, as well as the elegant Miss Willmott, are among the most light-hearted of their confusing race. Nor can one pass by the exquisite C. abietina, with its almost pure blue rayed stars; C. isophylla, ivory white, and its variety Mayii, both of which love the damper autumn soil (as dearly as the slugs love them), and the endless diversities which C. carpatica affords.

There are Dianthi in plenty, even D. alpinus yielding a number of flowers, while many hybrid seedlings which "didn't ought to" have blossomed into maturity and maternity while still in their little nursery beds. But more surprising than these are some snow white clusters on a Mexican Orange (Choisya ternata), a splash of apple-blossom pink upon the now bronzy green of Clematis montana rubens and a mass of flowers on some Helianthemums which usually give us no more than an odd bloom or two at this season. Some of the Phloxes of the subulata group, namely, Vivid, G. F. Wilson and others, are well covered with their bright-rayed flowers, and several of the lesser Hypericums are happier in their wealth of bloom than they were in earlier days. The green cushions of the Thrifts are studded with their carmine heads, and the creeping Veronica rupestris, though usually a faithful autumn bloomer, has never responded so readily to its annual cutting back. Gentiana septemfida is still bearing a good number of flowers. And yet, while so many plants that give few or no blooms at this late date are so surprisingly good, others, like Gentiana acaulis and the Lithospermums, which one can usually rely upon for an autumn display, are doing nothing.

A. T. JOHNSON.

Is Sugar Beet Worth Growing?

JUDGING by the number of questions that have been asked about the utilisation of Sugar Beet during the summer of this year, both in the gardening and the farming Press, one may conclude that many people have been growing this crop. And now I would like to ask the question, "Is Sugar Beet growing worth while?" Perhaps some readers who have tried the experiment of substituting Sugar Beet for sugar in jam-making, or in any other way, will let us know what they think about it. A correspondent in the *Gardeners' Chronicle* for September 8 says that he has used it with fruit preserve, and as a vegetable like ordinary Beet; but in neither case was it satisfactory. The *Farmers' Gazette* (Ireland) recommends the use of one-half to two-thirds proportion of Beet to fruit. Some fruits are naturally sweeter than others, and therefore require less sugar when made into jam. The paper says: "Some fruit requires a little real sugar to augment the sweetness of the Beet, but . . . fruits such as Strawberries require no such addition." Also, "a very ripe fruit requires less Sugar Beet than a less ripe kind."

If I had a few pounds of nice Strawberries to make into jam, I do not fancy myself spoiling the flavour by the addition of Sugar Beet. When I have Strawberry jam I like to taste the flavour of the fruit. Should anyone want Mangel jam, let them have it, but do not call it Strawberry. Besides, jam containing Sugar Beet will not keep. With regard to the table use of Sugar Beet, the same paper says "it can be used as garden Beet, but the less said of its quality the better. It will be found to resemble Mangel," which is about true.

Of course, those who have a crop will be justified in trying to put it to the best use, and there is no reason why they should not experiment with any of the methods under discussion. But perhaps the best thing for those to do who have pigs or poultry will be to boil a little of it and to mix it with the soft food.

As to THE GARDEN's advice to boil the roots for seven hours for the sake of extracting the syrup for use with fruit for jam-making or even for stewing (see THE GARDEN for August 11 and 25, "Answers to Correspondents," pages 328 and 352), this is perhaps the most satisfactory way of using it yet discussed. But it is poor stuff, and it requires seven hours' fire in these hard times! I quite understand that a pot of Sugar Beet could be put on to boil when the fire was not needed for any other purpose than to warm the room, which would partly get over the item of firing cost. Still, one is ever persistent with the question, "Is Sugar Beet Worth Growing?" when considering its limited usefulness, the cost of seed, of digging and preparing the ground, of manuring, of sowing the seed and keeping the crop clean, of harvesting and, last but not least, of preparing the roots for some sort of use.

No; I would rather enjoy my fruit without sugar and my Beet as Beet, and not as Mangel.

L. M. MARSHALL.

The Editor's Table

A Good Collection of Apples and Pears.—From Mr. E. Cann, The Woodman, Wormley West End, Broxbourne, comes a really noble collection of Apples and Pears. It consisted of Apples Peasgood's Nonsuch, three of which are shown in the illustration on the opposite page, averaging 1lb. each. The fruits are remarkable for their fine shape and condition, and quite live up to the description of this variety given in the quality list for cookers—"they were almost too beautiful to hide in a dumpling." The illustration on this page depicts a group comprising four fruits of Lord Suffield supporting two remarkably fine Pitmaston Duchess Pears. The three bottom right-hand Apples are Emperor Alexander, and the three top right-hand fruits are Peasgood's Nonsuch. The fruit was grown by the sender and his neighbour, Mr. C. Cox, gardener to Mrs. Trotter of Brickendon Grange, and the collection affords ample proof, if such were needed, that Hertfordshire is capable of producing fruits of a high standard of excellence. After photographing, the Apples and Pears, together with some fine Black Hamburgh Grapes, were conveyed to the South African Hospital at Richmond Park, where, needless to add, they were greatly appreciated. Several of the wounded, some of whom were great fruit-growers, expressed unbounded surprise that the Old Country could produce such fine fruit.

A COLLECTION OF LARGE APPLES AND PEARS.

KEW NOTES

IN the Begonia House (No. 8) just now several interesting plants are to be seen in flower. Among them is Beloperone oblonga, a native of Brazil. This is a plant well worth growing for late summer and autumn decoration, as the flowering season extends over several weeks. It is allied to Jacobinia and to Justicia and succeeds in a warm greenhouse, being easily propagated from cuttings rooted in a warm frame and potted into rich soil afterwards. The flowers are of a pretty shade of rosy purple and are freely produced.

Belonging to the same Order (Acanthaceæ) is another plant flowering close by, formerly known as Libonia floribunda, but now called Jacobinia pauciflora. The flowers are scarlet, tipped with yellow, and are produced in abundance all over the plant. The habit is graceful, and the plant easily propagated by means of cuttings. They succeed in a greenhouse, or may be grown in a cold frame during summer, completely exposing to the air to ripen. They may be had in flower from September to Christmas, and can be relied upon to make a show at a dull season.

In the same house is a pretty group of Rivinias, also natives of South America. They are well covered with their pretty berries, the scarlet R. humilis contrasting very nicely with the orange berries of R. aurantiaca. Some of these plants are grown as small standards, others as bush plants, which adds greatly to their effectiveness. They continue to be decorative for several weeks and are easily grown from seeds in rich loamy soil in a greenhouse. The plants look at their best in 5-inch and 6-inch pots.

In the Temperate House a large plant of Hoheria populnea, a native of New Zealand and allied to Plagianthus, is to be seen flowering. It is a small evergreen tree, and in the warmer parts of the country succeeds outdoors. The clusters of pure white flowers are produced from the axils of the leaves, which are serrated, from 3 inches to 4 inches long, and ovate.

The plant was not very well known twenty years ago, but seems to have been popular in Ireland for some time. The plant in the Temperate House is visited by bees in large numbers when in flower.

Among the pretty berried plants to be seen in the outdoor collections at present, some of the Viburnums are worth noting. A plant of V. betulifolium is carrying large clusters of its scarlet berries. It was one of the plants introduced by Dr. Wilson, and is worth growing for its colour at this season. V. lobophyllum is another of the same section, really better than V. betulifolium, having fruits in masses sufficient to weigh down the branches. The colour of the fruits of this is a bright red, almost cerise. The plant is a native of Western China.

The Water Lily House, popularly known as No. 15, is interesting to many people just now because of the Gourds which are in fruit this season. These tropical plants make a fine show, and are well worth growing for the decoration of a large house such as this during the summer and early autumn. They differ greatly in form, colour and size, and when hanging from a roof like this they can be seen at their best. Among many other interesting and useful Cucurbits is the Towel Gourd (Luffa ægyptiaca), the popular loofah of the shops. This, when imported dried, is put to such uses as scrubbing-brushes and sponges, and is used in the Tropics through which to strain Palm wine. It is also used to stuff soldiers' and other helmets for use in the sun. Another interesting plant is Momordica Charantia, which has very attractive fruits, long and pointed, and when ripe they split open at the apex, showing dark reddish seeds arranged in rows. This plant is cultivated throughout India, Malaya and Tropical Africa for food and for its medicinal uses. Equally interesting and effective is the curious Snake Gourd (Trichosanthes anguina). The fruits are long and very twisted, resembling a snake; hence its specific name. The colour of the fruits is green, changing to orange and orange scarlet. They are about 2 feet long at Kew, but in India the fruits attain a length of from 4 feet to 5 feet. The plants grow very rapidly and produce an abundance of fruits, which are greatly esteemed for use in curry. Lagenaria vulgaris and its varieties include the Bottle Gourd, Club Gourd, &c. They are handsome and distinct fruits. In the Tropics they are put to a number of domestic uses, and in some cases are elaborately carved and painted. Another curious plant is the Horned Cucumber, or, as some people call it, the Hedgehog Plant. Among the largest and most imposing fruits in the house are those of the Wax-bearing Gourds (Benincasa cerifera). The plants are natives of the Tropics, and the fruits look like wax. They are about 2 feet long and about 9 inches to 12 inches in diameter. Another interesting and effective plant is Aristolochia gigantea, which has immense flowers of a dark colour, veined. It differs from A. gigas both in shape and smell, this one not being unpleasant. It is very free flowering and quick growing.

The plants growing in or over the tank itself include the Indian Garland Flowers (Hedychiums). The fragrance, which just now is a feature of this house, comes from these beautiful plants. H. coronarium has large white flowers; H. spicatum (flavescens) is a creamy yellow and the best of all; and H. Watsonii is white, having spikes of flower 9 inches in length. The last is a cross between H. Gardnerianum and H. coronarium. These are in large pots stood on inverted ones, just the bottoms of the pots touching the water. Other plants in the tank include, of course, the Nymphæas, which are still very nice, some of the best being N. Lotus, N. devoniensis, N. Mrs. C. W. Waud, N. Lotus rosea, N. gigantea (a lovely blue), N. stellata, N. amazonica and N. zanzibarensis rosea. Here there is also growing a large plant of the Giant Cyperus, a native of Sicily, Palestine, &c., and the pretty little water plant Hydrocleis Commersonii. The leaves and fresh yellow flowers are very pleasing. The plant is a native of Brazil. Around are fine plants of Canna President Meyer and C. J. B. Van der Schoot. At the other side of the path is Pontederia cordata, having pale blue flowers and growing in soil at the water level; and at another corner, plants of the Egyptian Sacred Lotus (Nelumbium speciosum). This plant is now out of flower. Growing around the stages are Sensitive Plants, always popular with visitors; Torenia Fournieri, with its pleasing blue-coloured flowers, and many others. A plant always pretty, growing in a large pot and trained all round the railing, is Ipomœa digitata, which bears trusses of pink shaded flowers; and Vitis pterophora, a native of Brazil, is suspended from the roof, giving a very pretty effect over the water. L. W.

PRIMULA LA LORRAINE, A HANDSOME HYBRID.

PRIMULA LA LORRAINE

THIS is a vigorous, hardy, free-flowering plant, soon forming a strong clump. It was raised by Lemoine of Nancy by crossing Primula Veitchii with the pollen of a variety of P. Sieboldii. The foliage is bold and handsome; the flower-stalks are strong and hairy, carrying one or two whorls of beautiful pink magenta flowers. As this hybrid Primula responds well to pot treatment, a batch should be grown in the cold greenhouse, where, if well shaded from the sun, it makes a fine show, flowering in May and June. JOHN MACWATT.

TULIPS IN THE GARDEN—II

VARIETIES OF TULIPS TO USE AND AN INDICATION OF THEIR WONDERFUL COLOUR TONES.

By George Dillistone.

THE mere thought of Tulips at once produces a sense of glowing warmth of colour. One thinks of Lily of the Valley and smells its fragrance; of Roses and both fragrance and beauty of form, combined with rich variety of colour. With the Tulip, however, the value is so emphatically that of colour that the graceful elegance of form and mild fragrance that many of them possess are attributes that are often overlooked. In what other flower of the garden can we find scarlet, crimson and orange, lilac, lavender, heliotrope, violet, purple, soft and deep pink, every shade of yellow, blooms that are almost black, and others that glow with the sheen of burnished metal?

To attempt to divide them accurately into their colour groups is a task that is much too great for the present article, but it is possible to give some general indication of their tones that should prove helpful to those not familiar with them.

Take first the warm colours: scarlet, vermilion, pure spectrum red, orange scarlet and real orange. These are the colours wherewith to light up a distance or put a cheerful life and glow into the cool recesses among shrubbery plantings. Tall and splendidly regal are Claude Gillot, General de Cordous, Ariadne, John Fraser, Farncombe Sanders, Professor Michael Foster, Van Poortvliet and Bartigon.

Dwarfer, but none the less vivid (perhaps they are rather more so), are Inglescombe Scarlet, Norman Knight, Red Standard, Globe of Fire, Grenadier, Orange Globe, Orange King, Flame, Coralie and La Merveille. This last is one of the best for naturalising, so far as Tulips can be naturalised. Then there are those heavy purple shades that, rich enough in themselves, are full of wonderful possibilities when used in combination with other colours. These are all of the tall Darwin class, and include maroon blacks such as Philippe de Commines, Arizona, Zanzibar and Negro, and purple blacks of which La Tulipe Noire is still the deepest, but Leonardo da Vinci, Sultan and Zulu are fit companions. Of the varieties that most nearly approach purple are Viola, Marconi, Paul Boudry and Mrs. Potter Palmer, also known as Fashion. Some exceedingly rich colours are provided by the maroon shades—which, incidentally, vary considerably—of Eclipse, Hecla, King Harold and Millet. The colours of these might, however, almost as correctly be called dark crimson. To say that there are any Tulips that are blue would be to call for criticism, but there are some that certainly show a considerable proportion of blue in their colour composition. Heliotrope, dull grey lavender, lilac, and pale violet most accurately describe them, but they belong essentially to those groups of colours that are difficult to describe. What is more, they do not present exactly the same colour surface two hours together, and vary in themselves so much that it is rather their effect in the mass that must give them their colour classification. To these belong Rev. H. Ewbank, Dream, Melicette, Hippolyte, Bleu Aimable, the slender-stemmed and gracefully formed Erguste; while among the paler of them are Electra, Lantern, Nora Ware and La Tristesse. Of yellows there are tall sorts, such as Mrs. Moon, Avis Kennicott and Golden Spire; while among the medium and dwarfer varieties are Inglescombe Yellow, Bouton d'Or and the very pale shades of Ellen Willmott, Moonlight, Primrose Beauty and Leghorn Bonnet. To attempt to convey the colour of Bacchus, except by saying that it is like a huge rich purple Plum with all its delicate bloom intact, is beyond me, and Velvet King is of similar colour but with more red in its composition. Cardinal Manning or Kings Court is another indescribable colour. It is not violet, it is not purple, and there is little red in it, but it suggests all three. Among the metallic shades are several that do no more than suggest bronze, copper and old gold, and as they are more often than not found in the same flower, to separate them is impossible. To these belong Jaune d'Œuf, Quaintness and Bronze Queen. To no particular colour group can we assign those varieties where amber runs into apricot, lilac into old rose, cream into gold, and wherein heliotrope, lavender, fawn, buff and every shade of yellow can be detected. John Ruskin, Beauty of Bath, Fairy Queen, Doris and The Fawn are the best examples, and if there exist among all the wonderful colour combinations in Nature examples more complex and, withal, more exquisitely beautiful than these I have yet to find them. Here, then, are a few of the many varieties that can be used for every purpose for which the Tulip is suitable, and if these do not offer sufficient variety, there are three times as many more that are only left out because space and time are unavailable.

Nature, in her many benign achievements for the æsthetic enjoyments of mankind, has bestowed upon us infinite variety of excellence, and has fortunately implanted in us all a consciousness of her exquisite beauties. In no domain of her beneficent sway has she clad her populace in such glory of raiment as in this of the May-flowering Tulip. To achieve it she has split the sunray into a thousand fragments, and embodied them with form and texture; she has resolved the spectrum into its constituents, and mingled them with variations subtle and bewildering.

Indian Corn or Common Maize

I am sending a photograph of the common Maize (Zea Mays) grown in a small front garden here in Epsom. They are extra fine plants, the tallest being 11 feet high. (Pte.) J. Adamson.

No. 1 Company, Grenadier Guards, A Ward, Manor War Hospital, Epsom, Surrey.

MAIZE GOLDEN BANTAM

Since the middle of September this Corn has yielded a succession of fine, well-filled cobs, and the stems still (October 1) carry a goodly number which, with "luck and fine weather," should fill out in due course. It is odd that more people do not go in for this splendid vegetable, which is as pretty on the table as it is delicious. Moreover, few things are more easily cooked, ten minutes' boiling being sufficient if the cobs are freshly cut, as they always ought to be. Cultivation, again, is of the easiest. I have two lots this year. The first plants were raised in small pots in a cold frame in April and transferred to the open in the middle of May. The other batch of seed was drilled in across the orchard. The former came about ten days sooner, but as it was in a more sheltered spot, this was in itself sufficient to account for the difference. The land—sandy loam—was deeply dug, and had some old manure worked into it. When the plants got away a mulching was given, and during dry weather a copious supply of water was poured over the roots about twice a week. It was found necessary to support the exposed plants by thrusting in some stiff Pea-sticks alongside of them, otherwise the wind would have laid them low. No other attention of any kind was accorded. Golden Bantam does not grow more than about 4 feet high, which is often a great advantage, and, so far, it is the earliest and best variety I have grown.

North Wales. A. T. Johnson.

INDIAN CORN IN AN EPSOM GARDEN.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Flower Garden.

Cutting Hedges.—Proceed with the cutting of evergreen hedges as fast as possible to ensure their not being affected by frost, as is sometimes the case when winter cutting is practised, the exposed surface not having had time to heal or become hardy.

The Kitchen Garden.

Carrots, especially those growing in heavy soil, should be lifted and stored in sand or ashes, as with so much rain they are liable to split now that they have completed their growth. A cellar or cool shed is the best place in which to store the roots. On the floor place a layer of Carrots, then a thin layer of sand, and so on, and complete the heap, covering the whole with sand. A sheltered place outdoors will suffice, provided frost is excluded. The seedlings sown in frames in August will require thinning to 3 inches apart. Give them abundance of air during the day to induce a stocky growth.

Asparagus.—The "grass" is dying off unusually early this year. When quite ripe there is no gain in leaving it longer. Cut off the tops to within 2 inches of the soil, and clear off all weeds. The earliness of doing this will be beneficial, as a second crop of weeds can be cleared from the beds.

The Hardy Fruit Garden.

Planting Wall Trees.—The end of the month is a good time to make arrangements to prepare the sites and plant trees against walls. In replacing old trees with new on the same site, it is wise to remove the whole of the soil for a distance of 6 feet wide and 2 feet deep, as a new tree cannot be expected to grow satisfactorily in soil that may be quite exhausted. Replace the soil with some from another part of the garden, adding some half-decayed farmyard manure.

Pruning Bush Trees.—No time need be lost in finally pruning bush trees of Apples, Plums or Pears. The removal of surplus shoots thus early will do much good, letting in light and air to the inner part of the trees.

Plants Under Glass.

Cyclamens.—Treated as annuals, Cyclamens give much pleasure, and only a minimum of labour is required. Sow the seed at once in pans of sandy soil in a temperature of 60°, cover the pans with a sheet of glass, and on this lay moss to shade the soil, thus maintaining it moist for a longer time. The plants to flower in January should now have a light position near the glass in the greenhouse. Water carefully. Later on some stimulant in the water will improve the foliage and add strength to the flower-stems. Weak liquid manure and soot water is good. Where this cannot be had, sulphate of ammonia, given twice weekly at the rate of 2oz. to a gallon of water, is a good substitute.

BULBOPHYLLUM ERICSSONII. NOTE THE LONG SPIRAL TAILS OF THE SEPALS.
(*From the "Orchid Review."*)

Rhubarb.—Lift a few roots of a good forcing variety like The Sutton or Royal Albert, and place them in the Mushroom-house or any similar structure where they will obtain heat and moisture in darkened surroundings to ensure supplies by Christmas. Failing the places noted, under the greenhouse or hothouse staging, covering the crowns with leaves, will make a good substitute.

Cabbage.—This has been a bad time for new plantations, slugs having been so troublesome owing to the continued wet weather. Make up all losses and put out another batch, if plants are available, of any general cropping variety like Wheeler's Imperial or Flower of Spring. Place fine coal ashes around the newly put out plants. Stir the soil among the early plants to induce growth. Draw a little soil around the earliest batch of plants to protect the stems from frost.

Chicory.—Where Endive and Lettuce are scarce, Chicory is a good substitute. Well-grown roots placed in a warm, dark site quickly produce a quantity of succulent leaves, which have a pleasant flavour and are most useful for salading.

Lettuce.—Any plants about which there is any doubt of their withstanding the winter should be lifted and placed in cold frames. Smaller plants may also be treated in frames for spring use. Give abundance of air to induce a stocky growth.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Hoeing.—While the surface is dry the Dutch hoe should be run through the interspaces in all young crops to loosen the soil and to kill small seedling weeds, this being the last opportunity for the year. Where weeds have attained a few inches in height through want of attention earlier, the most satisfactory method is to cultivate the ground to a depth of 3 inches to 4 inches with a spade, turning the weeds under and leaving a fresh surface. A workman who knows how is able to cover a lot of ground in a short time by this method.

Alleys.—I have noticed that service alleys are not being kept so free from weeds as usual. These are difficult to clean by hoeing, the surface being so hard; but it is quite a good plan to skim it with a spade, disposing of the dirt in the readiest way in the meantime. Where quarters are shortly to be cultivated, it should be laid thereon to be buried.

Mushrooms.—The manure in which Mushrooms are growing still yields sufficient heat for these, and a little ventilation will do much to keep the atmosphere sweet and render the introduction of deleterious fungi less easy. While horse-manure is so scarce, a mixture of Beech or Oak leaves, with more than the usual quantity of straw, may be permitted. A covering of clean straw upon all beds is also of service in keeping surfaces moist.

The Hardy Fruit Garden.

Young Trees.—It is worth while to lift all young fruit trees that are growing vigorously. Some need only to be replanted at once; but others, which may need a more severe check, should have the roots shortened, not only the stouter ones, but the whole be neatly trimmed and the tree immediately replanted. This is best done before the fall of the leaf, so that a modicum of new roots may be produced before winter. As a further inducement to the proper kind of growth, see that the tree when being replanted is not deeply set in the ground, and, provided the soil is in good condition, press it very firmly around the roots.

Raspberries.—If these have not been pruned and tied, no longer delay should be allowed in doing so. None but strong, stout canes should be kept. If weak ones are needed to make up, they should be cut to within a few inches of the ground, when, next year, strong shoots are almost certain to result. Some growers hesitate to shorten the fruiting shoots until spring, thinking that the canes if cut suffer during the winter. A coating of manure—cow-manure preferably—should be laid to a thickness of 3 inches or 4 inches all over the surface, and may be left so, or, if extra neatness is imperative, just covered with soil by digging. This is also the proper time to make new plantations.

Plants.

Carnations.—I propagate the bulk of the winter flowering or Perpetual varieties at this time, getting nearly all the cuttings required off two year old plants. To the tyro it may be said that the secret of successful propagation consists in getting shoots of the right age—not soft nor hard ones—when "heel" or no "heel" rooting is certain, provided they are never allowed to wilt either at the time of handling or in the cutting stage in pot or sand bed. It is an aid to quick rooting to cover with glass, which preserves an equable condition of moisture without a too frequent use of the water-can or spray. A brisk bottom-heat means a rapid rooting, but is not really essential to success.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

Bulbophyllum Ericssonii

BULBOPHYLLUM ERICSSONII is surely one of the most striking species of a very large and enormously varied genus, for the inflorescence, which is here represented about five-eighths natural size, from a plant which flowered with Messrs. Sander and Sons, St. Albans, bears a rough resemblance to some weird octopus. The flowers are borne in an umbel, and radiate horizontally from the central axis. Individually they have been compared to those of some Chimæroid Masdevallia, and their colour is light green, with numerous brown blotches, the lip being marked with reddish purple on a white ground. The tails of the lateral sepals, it will be noticed, curl spirally at the apex, while the erect dorsal sepals

are piled up into a sort of cone in the centre of the inflorescence. The nearly horizontal peduncle is not shown, being on the other side of the inflorescence. B. Ericssonii is one of the few Bulbophyllums which have received a first-class certificate from the Royal Horticultural Society, this award having been given to a plant exhibited by the Hon. Walter Rothschild, Tring Park, in 1907. Both it and the allied and equally remarkable B. virescens have recently flowered well at Kew.

ANSWERS TO CORRESPONDENTS

FLOWER GARDEN.

WATER SNAILS IN A LILY POND.—I am writing to you on behalf of a friend of mine who is perplexed and troubled about her little water garden, where she grows a few Lilies. The pond, which covers only a few square yards, is infested with water snails, or, at least, water molluscs of some kind. This mollusc is about an inch long, and shaped not like a land snail, but rather like a whelk; that is, it is a longish tapering spiral, the whorls gradually contracting and ending in a point. The shell is black in colour and thin and fragile in substance. When they are thrown on to dry ground, where they soon die, the shell collapses and disappears. They are so numerous that by moving the open hand gently through the water one may catch a handful of them. Needless to say, they are destructive, living on the vegetation of the pond. My friend would like to know the name and nature of the mollusc; also whether there is any substance available which, if put in the water, would destroy the mollusc and yet not harm the vegetation. I may mention also that the under side of the floating leaves is infested with gelatinous bodies about half an inch long and of a pinkish colour. These may possibly be the spawn of the mollusc.—A. W. [The snail referred to is probably Limnæa stagnalis, and the jelly-like material beneath the leaves is the egg masses of the snails. We advise you to put some carp into the pond with the Lilies, and they will greatly assist in keeping the snails down. It would be desirable to clear out as many of the creatures as possible to start with as they are so numerous.—ED.]

KITCHEN GARDEN.

POTATOES AND HEAVY CROPPING.—Do you know if in any part of England three crops of Potatoes are grown in one year? Seeing in THE GARDEN of September 22 that Mr. F. J. Dowdeswell has obtained 15lb. of Potatoes from a single haulm, I am pleased to say I can beat him by 3lb. 15oz., as I dug nearly 19lb.—twenty-six large Potatoes, some 1lb. each—from one haulm of King Edward VII., which is very good.—A. T. GLENISTER (Gardener to Captain Lindsey), *Beaumont, West Southbourne, Bournemouth.* [No; we do not think it is possible to obtain three crops of Potatoes outdoors in any part of this country worth having in one and the same season. It is quite possible to have two by planting an early variety early in March in well-prepared soil and digging the same up early in June, replanting at the same time with sets (or seeds) saved from the previous year's growth (not this year's seeds). These should be ready to take up from the middle to the end of September. Another crop might then be planted, but the result would not pay for seeds or labour. We congratulate you upon the splendid crop of Potatoes you have been able to grow. Please send us a short paragraph describing your *modus operandi* of culture.—ED.]

TREATMENT OF CLAY SOIL (*Thorpclough*).—You will find the following a good way of preparing your clay soil for planting next spring. Now is a good time to get on with the work. Take out a trench 18 inches deep and 2 feet wide across one end of your allotment (wheeling it to the far end to fill the last trench). Turn over the soil at the bottom of the trench a foot deep; you will thus obtain rather more than 2 feet of tilled soil. The top soil of the next trench should then be turned into the open trench; the second spit also turned up and placed on the top of the first spit turned over, so that some of the bottom soil is brought to the top, but not the worst. Let the trenching go on in this way until the whole is completed. Any farmyard manure, basic slag or road grit (there must be no tar in it) should be mixed with the soil of the top spit as the work goes on, leaving the surface soil as rough as possible for the weather to act upon it during winter. Towards the end of March add a liberal sprinkling of lime and fork it in 4 inches deep. When the furrows are drawn, lay some short manure at the bottom for the Potatoes to lie on, also scatter over some soot. The rows should be 2½ feet wide for late Potatoes, 2 feet for second-earlies, and 20 inches for early ones. Your crop has been good; but you must improve on it next year.

COLOURED BEANS.—In reference to your reply to "W. B." that the prettily flaked gold and red Bean is of the Painted Lady type, may I point out that the old Painted Lady is the red and white flowered Runner Bean, the original of our present-day Scarlet Runner. The appearance of a golden and red Bean among green Runners indicates one thing only, viz., chance seed, and as Beans were so very scarce in the spring, it is more than likely that "W. B.'s" stock was originally grown in America, where by some chance a few seeds of the old Horticultural got in. There are now, or were years ago, several of these yellow and red Beans in vogue. One, named Golden Carmine Horticultural, I grew for years because of its delightful flavour. It used to attract much attention when I exhibited it at local shows. The common one is known as the Horticultural, Cranberry or Wren's Egg. It is quite a free cropper, and is useful both as a Snap Bean or for drying. Like our Scarlet Runner, it is favoured in the more northern parts of the United States, where the season is too cool or short to allow of the cultivation of Limas and other tender types. The Scarlet Runner, by the way, is always used by many Americans both as a green Bean and as a dry Bean. Apart from the tall Horticultural, there is also a dwarf form with the same beautifully marked pods. This is often grown and used as we use Peas, viz., the seeds when well developed are shelled out and cooked. Indeed, it is classed as a Shell Bean—that is, grown solely for shelling, and eaten either green or dry. Perhaps the best Shell Bean, however, is White Marrowfat. The great fault of these Beans, however, is their liability to rust in the pods, but by avoiding working among them while the foliage is wet this is largely avoided.—T. A. W.

FRUIT GARDEN.

DARK PATCHES ON PEAR TRIOMPHE DE VIENNE (*W. F. M. C.*).—The Pear was too far gone to be certain about it, but from what you say we suspect the fruits are attacked by bitter-pit, not due to the attack of a fungus or an insect, but apparently to some inequality in the water supply. The trouble is common in the soft-fleshed Apples, and may be found at times in some of the harder ones as well. A peculiar feature of the specimen sent, however, was the dead stalk, which had turned quite black. Were all the fruits like that?

PRESERVING WILD PEACHES (*B. C.*).—In many localities wild Peaches have fruited well this year and are also ripening excellently. These can be preserved in a similar manner to ordinary dessert varieties, either with or without sugar. The fruit should be picked just before it becomes perfectly ripe, and the skin removed with a silver-plated knife, the fruit, if sufficiently large, being cut in half. Pack the bottles well, but not too tightly, with the fruit, adding sufficient water (or syrup if sugar is available) to fill the bottles. Bring up to 160° Fahr. in the steriliser or vessel used for the purpose, and keep at this heat for about five minutes. Seal the bottles and stand in a draught-proof spot to cool off. Alternatives for the proper preserving jars were given in THE GARDEN of September 15.

PEARS IN A COOL ORCHARD-HOUSE.—I have never tried to grow Pears, as I know they are very uncertain outdoors here owing to late frost, but I shall be very pleased to have your advice on the following: I desire to grow some of the finest Pears, and I am erecting a small orchard-house, unheated, against a south wall 8 feet high to grow eight single cordons—four at the front and four at the back—supported on wires to form an arch. I have been told the trees would not do if planted in borders, as the growth would be too vigorous, so I propose to confine the roots in concrete rings that will stand the frost. They will be like inverted pots resting on loose concrete plates, having good drainage, and will be about 15 inches in diameter at the bottom and 11 inches at the top. This is for convenience in repotting, as I shall be able to lift the pot without disturbing the tree. I intend to mix some fine ashes in the concrete to make it more porous, and also make a ring of small holes round the centre. Do you think the trees would be a success? If so, could you suggest anything better than the following eight varieties: Doyenné du Comice, Beurré Superfin, Beurré Diel, Emile d'Heyst, Louise Bonne of Jersey, Marguerite Marillat, Pitmaston Duchess and Durondeau?—WILLIAM JAMIESON, *Nursery Avenue, Kilmarnock.* [Your letter is interesting, and the suggestions you put forward as to how you propose planting your Pear trees excellent so far, but there are one or two points which we think you will do well to reconsider. You must bear in mind that the trees will bloom earlier under glass than they would outdoors; consequently the bloom would be subjected to a more severe frost, and the glass protection alone would not be sufficient to protect the bloom from severe frost. The remedy in this case would be a flow and return hot-water pipe and a small boiler. The cost would be small, as they would only be in use while the trees were in bloom and perhaps for a few short spells of severe weather afterwards. As regards the second point, we think you will do well to give up the idea of concrete rings. The roots of the trees would be too confined, necessitating constant watering in hot weather. If this duty were neglected even only for a few hours, the trees would be so crippled thereby that their success then and in the future would be jeopardised to a serious degree. Rather, we should say, form a border (or a tank) the length of the house 3 feet wide and the same in depth, concrete the bottom, laying a 3-inch drainpipe with a small fall to it in the concrete in front of the border (of course, with an outlet for discharge). On the top of the concrete and the pipe place a layer of broken brick-ends 7 inches deep. Cover this with turves, grass-side downwards, place them quite close together and ram down hard. The border will then be ready to receive the trees. As regards the soil to use, to one barrow-load of turfy loam (of a rather heavy than a light description) add a peck of old mortar rubble (broken small), half a peck of fresh lime, the same of basic slag and the same of bone-meal. Mix well together. The loam should be cut up into pieces the size of one's fist. Do not plant the trees too deeply, and be careful to press the soil of the border together firmly while planting. Give the trees a good watering when planting is completed. Cut off the tip-ends of all the roots before planting. Make a similar arrangement for your back row of trees. Do not forget to make provision for ample ventilation; Pear trees love plenty of air in favourable weather. If you can arrange for the roof lights to be taken off in late summer and autumn, so much the better.—ED.]

MISCELLANEOUS.

BRACKEN LITTER (*W. H. W.*).—There is no truth in the idea that Bracken litter encourages wireworm.

GENERATING FORMALDEHYDE VAPOUR (*T. R. F.*).—Formaldehyde may be applied in the form of a solution, such as formalin, and used at, say, the rate of 1 part of formalin to 100 parts of water to scrub the greenhouse; or the formalin may be poured into a basin containing a rose red solution of potassium permanganate; or the apparatus used for disinfecting rooms where paraform tabloids are heated in an atmosphere of carbonic acid gas may be applied to the same purpose in the greenhouse. Fumigation must not be done while the plants are in the house, as the fumes are as deadly to plant life as to animal life.

THE CULTURE OF FIELD MUSHROOMS (*A. P. S.*).—To grow field Mushrooms successfully the older the pasture is the better. A loamy, well-drained and moderately heavy soil suits them well. If horses are grazed on it, all the better. We suggest that you start in a small way first, as the venture does not always turn out a success. The end of May is a good time to plant the spawn. It will then have the full summer before it to spread and permeate into the soil, and to produce a crop in late summer, generally in September. Select that part of the pasture which is moderately shaded from midday sun. (This is not absolutely necessary.) As regards culture, in the first place cut off a piece of turf a foot square and 3 inches deep. Then dig up the exposed soil to the depth of a foot and plant four pieces of spawn in it. Let each piece be the size of a hen's egg. The top of each piece when planted should be half an inch below the top of the soil, which should be trodden as firmly as possible over the spawn. Then replace the turf over the hole, ramming it hard down and covering with a thin layer of soil to prevent it being burnt up by the sun. The holes to plant in should be 6 yards apart. Early in August, especially if the weather is dry, give the turves over the spawn a good soaking of water. Be careful to buy the best spawn you can get, and stipulate that it must be fresh. It is sold in bricks.

NAMES OF PLANTS.—*H. C.*—Polygala vulgaris var. depressa.——*Mrs. G. C. G.*—1, Cratægus prunifolia; 2, C. Carrièrei.——*Miss L. S. O.*—Potentilla fruticosa.——*Lieutenant-General C.*—Siberian Crab (Pyrus baccata).

NAMES OF FRUIT.—*Cliffe.*—A, Beurré Clairgeau; B, Fondante d'Automne; C, Louise Bonne of Jersey; D, Marie Louise; E, Fertility; F, Emile d'Heyst.——*Pitchford.*—1, Brabant Bellefleur; 2, Wealthy; 3, Small's Admirable. The remainder of the Apples were not marked and the labels were mixed up.——*H. S., Stone.*—Apples: 1, Duchess of Oldenburg; 2, Sturmer Pippin; 3, London Pippin; 6, Gloria Mundi. The others we do not recognise.——*J. S.*—Apple, Hawthornden; Pear, Glastonbury (do not gather too early, ripe in October and November); Potato, King Edward VII.——*A. J. M., Worksop.*—Apple, Fearn's Pippin, ripe in December and will keep until March; you have gathered it too soon. The Plum was a mass of decay and unrecognisable; please send a less ripe sample.——*H. M. C.*—1, Warner's King; 2, Lane's Prince Albert; 3, Scarlet Pearmain; 4, uncertain; 5, Newton Wonder; 7, Scarlet Nonpareil; 8, Blenheim Orange; 9, arrived in bad condition, unable to name. Yes; the Plum is attacked by silver-leaf disease.——*Forfar.*—1, Wealthy; 2, London Pippin; 3, uncertain; 4, Lord Burghley.——*H. N.*—1, Warner's King; 2, Histon Favourite; 3, James Grieve; 4, Gravenstein.

SOCIETIES

READING AND DISTRICT GARDENERS' ASSOCIATION.

FOOD PRODUCTION.

THE first meeting of the autumn session in connection with the above association was held in the Abbey Hall on Monday evening, when Alderman F. B. Parfitt presided over a splendid attendance; in fact, the largest since the outbreak of war. This can easily be accounted for, as the evening was set apart for the weighing in of the tubers entered for the Potato competition inaugurated in the spring for the heaviest crop produced from three tubers, which had to be planted as received from the secretary. The competition created a great amount of rivalry, and the result was looked forward to with much interest. The digging of the crop was supervised by a set of judges (Messrs. Fulker, Townsend, Dore and Cox). No fewer than thirty lots were staged, and the result was as follows: First, Mr. H. Wilson, The Gardens, Wessex Hall, Reading, 46lb.; second, Mr. A. F. Bailey, The Gardens, North Court, Finchampstead, 38lb. 9oz.; third, Mr. A. H. Fulker, The Gardens, Elmhurst, Reading, 34lb. 13½oz. The total of the three lots was 1cwt. 7lb. 6oz., produced from nine tubers weighing 18oz. The variety used was Sutton's Superlative. During the evening the prizewinners gave an account of their method of culture, and a good discussion ensued. There were also several other exhibits, viz.: Apples and Marguerite Marillat Pears, from Mr. H. Wilson; Apple Lord Suffield, from Mr. H. Tovey, The Gardens, Leighton Park; Apples Warner's King, Cox's Pomona and Blenheim Orange, from Mr. F. Alexander, Kennet Lodge Gardens, Theale. A beautiful dish of Apple James Grieve was shown by Mr. R. Osmond, Northcourt Avenue, Reading. Plum Autumn Compote, a splendid late variety, shown by Mr. H. G. Cox, Hamilton Road, Reading, was given an award of merit. Tomatoes were staged by Mr. A. F. Bailey. An excellent collection of vegetables produced from seed sown since July 1, exhibited by Mr. E. J. Dore, Liverpool Road, Reading, was given an award of merit.

ROYAL HORTICULTURAL SOCIETY

AUTUMN FRUIT SHOW.

AN exhibition of much excellence was brought together on the 9th inst. on the occasion of the annual fruit show. The larger classes, considerably reduced at the last moment owing to the exigencies of space, were, notwithstanding, a great attraction and well contested. The Grape classes, if not so well contested as in some former years, were still good. It was, however, in the single-dish classes that some of the finest produce was noted, the colour being very fine. Colour, indeed, and a high quality standard were noted throughout the show, and in these respects have rarely been excelled.

DIVISION I.—OPEN TO GARDENERS AND AMATEURS ONLY.

For a collection of nine dishes of ripe dessert fruit, six kinds at least, four admirable collections were staged, the first prize going to Mr. G. Mullins, gardener to Lord Somers, Eastnor Castle, Ledbury. His nine were Black Alicante and Muscat of Alexandria Grapes, Barrington and Gladstone Peaches, Humboldt Nectarine, Apples Cox's Orange Pippin and Houblon, Pear Marguerite Marillat and seedling Melons: a beautiful and uniform collection. Second, the Duke of Newcastle, Clumber, Worksop, whose Muscat of Alexandria Grapes were of particularly good colour. Apple Cox's Orange Pippin was also good, and Golden Eagle and Princess of Wales Peaches. Third, C. A. Cain, Esq., J.P., Welwyn, Herts.

For a collection of six dishes of ripe dessert fruit, four kinds at least, Lord Hillingdon, Wildernesse, Sevenoaks, Kent (gardener, Mr. J. Skelton), took the lead. Black Hamburgh and Muscat of Alexandria Grapes, Lord Palmerston Peach, Marguerite Marillat Pear, Rival and Cox's Orange Pippin Apples were all good. Second, E. Matthews, Esq., Stratfieldsaye, Mortimer, Bucks.

For a collection of six distinct varieties of Grapes, two bunches of each, four exhibitors staged, the leading award going to the Duke of Newcastle, Clumber, Worksop, whose bunches of Gros Guillaume were of grand size and well coloured. Chasselas Napoleon, Muscat of Alexandria, Gros Colman (one a really grand bunch) and Cannon Hall Muscat were very good. Second, G. Miller, Esq., Radlett, Herts (gardener, Mr. J. Kidd), whose better bunches were Appley Towers, Alicante, Alnwick Seedling and Lady Hutt. Third, Lord Hastings, Melton Constable, Norfolk (gardener, Mr. J. G. Besant), whose bunches of Muscat of Alexandria were of handsome proportions.

For two bunches of Black Hamburgh Grapes comparatively poor produce was staged, the first prize being awarded to compact, well-coloured bunches from Lord Hillingdon, Wildernesse, Sevenoaks, Kent (gardener, Mr. J. Skelton). Second, the Duke of Newcastle, whose bunches were smaller.

Two bunches of Mrs. Pince Grapes.—Lord Hillingdon was again first in this class with fairly good, well-coloured bunches of fruits. The Duke of Newcastle was second; only two competed.

Grapes Alicante, two bunches.—Eight staged in this class, Lord Hillingdon, Sevenoaks, Kent, leading with broadly shouldered, well-coloured, admirably finished bunches. Second, Lord Somers, Eastnor Castle, Ledbury, with longer, well-finished bunches.

Madresfield Court Grapes, two bunches.—The second prize only was awarded in this class, Lord Hastings, Melton Constable, Norfolk (gardener, Mr. J. G. Besant) being the recipient.

Grapes Prince of Wales, two bunches.—In this class also the second prize only was awarded, G. Mayer, Esq., Wistler's Wood, Woldingham, Surrey, being the winner with fairly good bunches, somewhat lacking in colour.

For any other black Grape, two bunches, the Duke of Newcastle, Worksop, was first with small bunches of Muscat of Alexandria. Lord Hastings, Melton Constable, was second with much larger bunches of Alnwick Seedling.

Two bunches of Muscat of Alexandria Grapes.—Superbly finished bunches from the Duke of Newcastle, Worksop, secured the first prize in this class. They were also well coloured and of good finish. Second, S. P. Emanuel, Esq., Oatlands Lodge, Weybridge (gardener, Mr. J. Lock). Eight exhibitors staged.

Any other white Grape, two bunches.—Lord Somers, Eastnor Castle, Ledbury (gardener, Mr. G. Mullins), staged Mrs. Pearson and took first prize with capital bunches. Second, the Duke of Newcastle, Clumber, Worksop, who staged fairly good bunches of Cannon Hall Muscat, one of the bunches being particularly well finished.

Collection of hardy fruits, thirty dishes, distinct, grown entirely in the open, not more than twelve varieties of Apples nor eight of Pears. First prize, Mr. R. Staward, The Gardens, Panshanger, whose Apples Emperor Alexander, Rev. W. Wilks, Gascoyne's Scarlet, Allington Pippin, Bismarck, Rival and Coronation were of the best. Plums, Peaches, Rivers' Late Red Currant and Pears were also good. Second, Mr. G. Mullins, gardener to Lord Somers, Eastnor Castle, Ledbury, whose Charles Ross, Emperor Alexander and Annie Elizabeth Apples were very good. Peaches Gladstone, Barrington and Sea Eagle were also excellent.

DIVISION II.—NURSERYMEN ONLY.

Fruit Grown Entirely Out of Doors.

In this Mr. J. C. Allgrove was first with a very superior lot of fruits—high class and clean throughout. The finest lot was a stand of thirty magnificent fruits of Rev. W. Wilks Apple, the best all-round sample we have seen. Other good Apples were Lane's Prince Albert, Charles Ross, Wealthy, James Grieve, Peasgood's Nonsuch, Alexander, Blenheim Orange and Gascoyne's Scarlet. Plums President and Coe's Golden Drop were very good. Of Pears, Marguerite Marillat was of outstanding merit. Finer Apples have probably never been shown. Second, Messrs. George Bunyard and Co., Maidstone, whose best dishes were Apples Ben's Red, Bismarck, Bramley's Seedling, Lane's Prince Albert, James Grieve, Autumn Pearmain and Warner's King. Good Pears were Beurré Jean Van Geert, Conference, Doyenné du Comice and Durondeau. Third, Messrs. H. Cannell and Sons, Eynsford, Kent (Mr. J. Lawson, manager). Here Apples Peasgood's Nonsuch, Wadhurst Pippin, Annie Elizabeth, Wellington, Edward VII., Golden Spire, King of Pippins, Charles Ross, Coronation, Allington Pippin and Twenty Ounce were all excellent. This class was well contested, five excellent collections being staged.

In the succeeding class, 20 feet run of 6 feet tabling, Messrs. S. Spooner and Sons, The Nurseries, Hounslow, were first with a capital collection of fruits. Arranged in basket groups Apples Ribston Pippin, King of the Pippins, Rival, Houblon, Peasgood's Nonsuch, The Queen, Annie Elizabeth, Royal Jubilee and Lane's Prince Albert were very fine. Second, Messrs. J. Cheal and Sons, Crawley, whose dishes of Apples St. Edmund's Russet, Royal Jubilee, Cox's Pomona, Rev. W. Wilks, Lane's Prince Albert, Lord Derby, Charles Ross, Alexander, The Queen and Crawley Beauty were particularly good and clean. Third, the Barnham Nursery Company; fourth, Mr. H. Close, Littlecroft Nursery, Orpington. Five competed.

DIVISION III.—MARKET GROWERS ONLY.

This class is arranged for twenty baskets of Apples, cooking and dessert. Only one exhibitor staged, the first prize going to Lieutenant-Colonel H. Lumley Webb, Ham Green, Sittingbourne, for an admirable lot of fruits. Peasgood's Nonsuch, King of the Pippins (a perfect dish), Lane's Prince Albert, Ben's Red, Paroquet, Rival, Bramley's Seedling, Ribston Pippin, Newton Wonder and Allington Pippin were among the finer examples. Emperor Alexander was also excellent and superbly coloured.

DIVISION IV.—GARDENERS AND AMATEURS ONLY.

Fruit Grown Entirely in the Open.

Twenty-four dishes of Apples, sixteen cooking and eight dessert, were asked for in this class, the leading prize going to C. A. Cain, Esq., J.P., The Node, Welwyn, Herts, for a very fine exhibit. Royal Jubilee, Charles Ross, Tyler's Kernel, Newton Wonder, Rev. W. Wilks, Houblon, Peasgood's Nonsuch and Tower of Glamis were very fine. Wealthy and Gascoyne's Scarlet were of exceptional colour. Second, Lord Somers, Eastnor Castle, Ledbury, whose best were Rev. W. Wilks, The Queen, Warner's King, Tyler's Kernel, Newton Wonder, Rival and Houblon, all well shown. Third, John Liddell, Esq. Four collections were staged.

Twelve dishes of Apples, eight cooking and four dessert.—First, G. Miller, Esq., Radlett, Herts, who staged good Rival, Charles Ross and Rev. W. Wilks among many.

For six dishes of cooking Apples, C. A. Cain, Esq., J.P., was first, Emperor Alexander, Rev. W. Wilks and Lane's Prince Albert being the better dishes.

Dessert Pears, eighteen dishes, distinct.—First, J. Liddell, Esq., Basingstoke (gardener, Mr. R. Learmonth), who staged very good Durondeau, Beurré Hardy, Princess, Beurré Bosc and Beurré Diel in a good lot.

In the class for nine dishes, Lord Somers, Eastnor Castle, was first, his finer dishes being Louise Bonne de Jersey and Souvenir du Congrès.

For three dishes of Plums, distinct, C. H. Berners, Esq., Wolverstone Park, Ipswich (gardener, Mr. W. Messenger), was first, staging Reine Claude de Bavay, President and Coe's Golden Drop; second, J. Liddell, Esq., Basingstoke, who had dishes of Coe's Violet, Rivers' Late Orange (very fine) and Coe's Golden Drop. Four collections were staged.

DIVISION V.

Special County Classes.

These were not strongly represented on this occasion. For Pears (B.B.), open to Surrey, Sussex and Hants, the Rev. McMurdie, Woburn Park, Weybridge (gardener, Mr. A. Basile), was first, his half-dozen dishes being grand. The varieties were Durondeau, Roosevelt, Marguerite Marillat and Souvenir du Congrès.

Six dishes of Apples, distinct, four cooking, two dessert (confined to the counties of Essex, Suffolk, Norfolk, &c.): First, C. H. Berners, Esq., Ipswich, whose Rev. W. Wilks, Houblon, Charles Ross and Peasgood's Nonsuch were very fine. For Gloucester, Oxford, Bucks, &c.: First, Sir Edward Pearson, Brickendonbury, Hertford, who had an excellent set.

For six dishes of Pears, distinct (confined to Essex, Suffolk, Norfolk, Cambridge, &c.), Sir R. Shafto Adair, Bart., Bungay, Suffolk, was first, Beurré Hardy, Beurré Bosc and Doyenné du Comice being his best; second, C. H. Berners, Esq., who staged very fine Roosevelt, Durondeau and Marguerite Marillat.

DIVISION VI.

Choice Dessert Apples.

For Blenheim Orange thirteen dishes were staged, the leading prize going to E. E. Palmer, Esq., Basingstoke.

In the Charles Ross class twenty dishes were staged, W. J. Gresson, Esq., Severn Stoke, Worcester (gardener, Mr. T. Parry), being awarded first for a medium-sized, well-finished lot.

Cooking Apples.

For Emperor Alexander ten staged, Sir R. Shafto Adair, Bart., taking first prize.

In the Lord Derby class the Rev. J. R. Leigh, Yalding, Kent, was first; while in that for Peasgood's Nonsuch, Mark Firth, Esq., Market Harborough, excelled against a dozen competitors. His dish of fruits was very fine.

MEMBERS OF THE CONFERENCE AT WISLEY IN CONNECTION WITH THE FOOD PRODUCTION CAMPAIGN.

Left to right: E. H. Starling, A. C. Lehane, A. E. Usher, J. G. Weston, C. Wakely, T. A. Lawrenson, C. E. J. Walkey, C. R. Fielder, A. Andrews, W. Stewart, W. H. Turner, A. S. Galt, G. Corbett, Wilson (R.H.S. Gardens), F. J. Chittenden, W. H. Morter, I. Lloyd, W. H. Divers, Blakey (R.H.S. Gardens), J. Glavin, C. H. Curtis, and J. W. Howe (Press Association).

CONFERENCE ON FOOD PRODUCTION

IN furtherance of its Vegetable Food Production Campaign, the Royal Horticultural Society recently issued invitations to its itinerant lecturers to attend a Conference at the Wisley Gardens, at which methods of instruction, differences of practice and arrangements for organisation could be discussed. Further reference to the Conference will be made in our next issue.

BOOKS

Standard Cyclopedia of Horticulture.*—With the publication of Vol. VI. this useful work of reference is brought to completion. It is generally recognised that we are in urgent need of an encyclopædia of British horticulture, and although the work under review is of American origin, it nevertheless helps to meet this want and deserves most noteworthy recognition. Nicholson's "Dictionary of Gardening" is regarded as our standard work, but it is becoming antiquated and calls for revision. It is therefore with delight that we welcome this new monumental cyclopædia, the work of editing which has been ably carried out by Mr. L. H. Bailey, a keen horticulturist who requires no introduction to British readers.

In the year 1900 Mr. Bailey was responsible for the "Cyclopedia of American Horticulture," and the present work is founded on this compilation; and while the purpose of the earlier book was "to make a complete record of the status of North American horticulture as it exists at the close of the nineteenth century," the recent cyclopædia covers a wide area and a fuller treatment has been given to plants cultivated in Southern Florida, Southern California, and other parts of the continental United States. The main purpose of a cyclopædia is to supply descriptions of species, and in this work an attempt has been made to account for all the species in "the trade," while ever-changing lists of gardening varieties are rightly excluded. Coupled with the identification of species is the other essential need, viz., that of cultivating the plants described, and every effort has been made to supply the best cultural advice.

The first volume (A—B, pages 1—602, Figs. 1—708) opens with a "Synopsis of the Plant Kingdom," by Mr. K. M. Weigand, occupying seventy-eight pages of text, and this is followed by "A Key to the Families and Genera." A useful list of "English Equivalents of Latin Names of Species" is also given, while "The Glossary of Botanical Terms" will prove of great help to many. Besides the description of plants, many practical and scientific articles are incorporated, including Alpine Plants, Annuals, Ants, Arboriculture (a splendid article jointly written by Messrs. J. B. Davy and B. Y. Morrison), Autumn Gardening, Basket Plants, Bees, Birds, Borders, Bouquets, Bulbs, &c.

The second volume treats of the letters C, D, E, the pages being carried on from 603 to 1200 and the figures from 701 to 1470. The principal genus in this volume is Chrysanthemum, and includes Pyrethrum. A general review of the genus is given, followed by a full and concise description of the twenty-nine species. Mr. W. Miller classifies the "Types of the Common Chrysanthemum," while "The Treatise on the Culture of the Florist's Chrysanthemum" comes from the same writer in conjunction with Mr. E. Smith. This article is subdivided into six sections, as follows: 1, "Culture of Chrysanthemums for Cut Flowers"; 2, "Culture of Chrysanthemums in Pots"; 3, "Culture of Chrysanthemums for the Production of New Varieties"; 4, "Varieties"; 5, "Culture of Chrysanthemums for Exhibiting"; 6, "Culture of Chrysanthemums Out of Doors," and is illustrative of the thoroughness with which the whole work is stamped.

Volume III. (F—K, pages 1201—1760, Figs. 1471—2047) contains articles on Floral Designs, Formal Gardening, Forcing, Fumigation, Frost, Grasses, Grafting, &c.; while an extensive article on Horticulture and Horticulturists comprises over one hundred pages of text. The genus Iris may be taken as a fair representative of the manner in which a large genus is treated. It opens with a short account of the genus, which is subdivided into the groups German Irises, Japanese Irises, The Tall Apogon Irises, Dwarf Irises, Oncocyclus Irises and Bulbous Irises. "The Cultivation of Irises" is contributed by Mr. J. N. Gerard, while Mr. S. B. Mitchell is responsible for an article on "The Iris in California." Next follows an unsigned article on "Orris-root Cultivation." A key to the subgenera Evansia, Pogoniris, Pseudoregelia, Regelia, Oncocyclus, Pardanthopsis, Apogon, Juno, Xiphium and Gynandriris—the whole comprising some 110 species—is followed by a detailed key to each of the subgenera, while the species are amply described and full synonymy included; moreover, references are given to figures and botanical and horticultural literature. In the descriptions special stress is laid on points which the grower would consider of importance. Floricultural hints and the times of flowering are usually appended, and the geographical distribution also receives attention. In smaller type a number of species and hybrids not commonly met with in cultivation are briefly described, the whole treatise being carried out by Mr. H. Hasselbring.

Volume IV. (the same may be said of Volumes V. and VI.) is of equal interest, and fully maintains the high standard set by the previous volumes. Being an American work, it naturally contains many things which are of passing interest only to us, but in spite of this it is a work which deserves a place in every library. There is not a page which does not possess one or more illustrations. The figures are excellent reproductions, not too large, and are from drawings executed by many gifted artists, among whom we may cite the name of Miss Matilda Smith of Kew. In each volume there are about twenty full-page plates, four of which are in colour. The books are strong, well bound, and will stand much wear, and we think that the price is exceptionally reasonable.

* "Standard Cyclopedia of Horticulture," by L. H. Bailey. Vols. I.—VI. Published by the Macmillan Company, New York and London; price 25s. net per volume.

What is the Strength of a Sweet Pea Tendril?

I WONDER how many readers will believe the following story, which is illustrative of the strength of a Sweet Pea tendril. I know that it will be placing a strain upon the credulity of the average person; I would not have believed it myself had I not actually witnessed the incident and released the bird. It also raises the interesting query as to how long a period of time is required by a Pea tendril to get a stranglehold upon its support. However, to get to the story. My little son and I were busy hunting the ubiquitous "Cabbage White" one afternoon, when his sharp eyes saw a little flycatcher struggling in a clump of Sweet Peas as we approached. I expected to see the bird fly away, but as it did not do so I told him I would try to catch it in the butterfly net in order that he could observe the bird at close quarters.

The net was unnecessary to capture the flycatcher, which was already caught by the Sweet Pea tendril. This was firmly coiled round one of its feet, so much so that, even by fluttering when I approached, the bird could not break it or release itself. Now comes the interesting part of the story. How did that tendril adhere to the bird's foot? It was not accidental, as I broke off the tendril and found it firmly tightened on the leg. Also the question as to how long it takes for a tendril to attach itself to the support can be raised from this incident. The bird was evidently among the Sweet Peas clearing the blooms from green fly, which had just commenced to attack them; and excellent little helpers the birds are, too! Not only do they eat aphis, but also the green caterpillars of the "Cabbage White." Assuming that the flycatcher alighted on the sticks for a moment to make a meal off aphis, and that the tendril touched its leg, would it be likely to stay long enough in one position to allow the hook to encircle and bind on the leg? Assuredly no; and yet there it was, and I do not attempt to explain it. It is sufficient to say that I caught and released the bird from the trap Nature had laid for it. I wonder if any reader has had a similar experience.

[With quick-growing plants, such as occur in tropical or subtropical countries, a revolution of tendrils is a matter of minutes; we do not know how long a Sweet Pea tendril would take. It has been shown in the case of Cobæa scandens—a well-known occupant of our conservatories—that the revolution of a mutating tendril is completed in twenty-five minutes; the tendril of a Passion Flower took half an hour; and that of the Vine sixty-seven minutes to complete the revolution, but the rapidity with which the tendrils curve when in contact with a support is a matter of seconds.—Ed.]

Peculiarly enough, flycatchers seem to have favoured me this year. A couple were good enough to make their nest in a Rose arch over a path, beneath which a constant stream of traffic from the household passed on the way to the vegetable garden. They seemed the tamest little chaps I have seen, and remained undiscovered until the building operations were nearly finished, when they were discovered through one of them flying out when I was standing under the arch. They gave an added interest to the garden, for by and by four eggs made their appearance, and the little head and beak could be seen anxiously watching anyone who approached; but the bird did not fly off the nest, as would be expected.

The eggs hatched, but unfortunately only three were fertile, although, judging from the compressed condition of those three towards the end, the nest was not designed to hold more. I was much interested in watching the parents feeding the offspring. This I did by means of a telescope, as I wished to see what food they gave them and as to whether they really did much good or ill in the garden. I found that the favourite item on the menu was the beautifully coloured butterfly named, I think, the French Admiral, but am not sure of this, as the insect was somewhat crumpled when held in the beak. The family did not forsake the garden, and have practically cleared my Turnips from the attack of green caterpillars. The flycatchers knew where to look for them—under the leaves. It was amusing to see them going in and out of the plants. They would crouch beneath a plant, look upwards, and make a dart at some invisible insect, but which I eventually found to be the Cabbage White caterpillar.

While on the subject of the caterpillar I might just add that the spraying with lead arsenate was most effective, the whole of the first brood being destroyed (and this was when the plague was at its worst). As the plants threw out new leaves, which, of course, had no protection, the butterflies again attacked them, but not in such numbers as to make it difficult to deal with the offspring by hand picking. I am now speaking of the round dozen plants which did not succumb to the Anbury attacks.

CLARENCE PONTING.

For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

TWO or three important points are touched upon in a letter to hand from a GARDEN correspondent. In the first place he asks me for fuller particulars of the hen hospital, &c., referred to in my last week's notes, and below will be found a few useful hints thereon.

The Hen Hospital.—A watery discharge from the eyes and nostrils, accompanied by sneezing, are the usual symptoms of common colds. When roup follows, the eyes may become closed and there may be growths on face and comb. A common cold should not be treated lightly, in view of serious consequences, and the same can, of course, be said of any ailment. Diseases quickly spread from one bird to another, the usual medium being the drinking water, so that once a bird is found to be out of order it should be isolated for special treatment. It is inadvisable merely to remove the invalids and allow them to run about outside the enclosures; total isolation is the proper course to be adopted. Any suitable outhouse can be utilised as a hen hospital provided it is nice and comfortable.

Interior of Hospital.—Around the walls of the hospital should be arranged ordinary coops with wooden partitions, backs, bottoms and tops, the fronts consisting of narrow slats. Solid dividing boards are necessary, so that the inmate of one coop is kept entirely away from the bird in the next "box." The coops should be well bedded down with peat-moss, and hanging to the front of each there should be receptacles for food, drinking water, shell, grit and charcoal, so arranged that the inmate can have access to the contents. A medicine cupboard should be given a place within the hospital, and this should contain a stock of medicines. A table or bench will also be useful, and if there is a fireplace therein so much the better for use in severe weather.

Cause of Death.—Secondly, the correspondent asks for guidance respecting the deaths of several of his birds. Here is an extract from his letter:

> "I am also writing to ask your opinion on a Brown Leghorn which I killed as it seemed in great pain and for a long time has been mopish. It used to open its mouth as though breathing was very difficult. Its crop was quite full; and I have had other similar cases. One of my White Leghorn cocks died after suffering as above for three weeks, while a Rhode Island Red collapsed suddenly, and here also the crop was full and felt solid. The Rhode Island Red was in splendid condition, but the White Leghorn fell completely away and was all skin and bone when death took place. If you can fathom the trouble from these rough particulars I shall feel grateful. My man who looks after the birds is nonplussed, although he is well versed in poultry matters."

Digestive Disorders.—There is not the least doubt that digestive disorders are to blame, and my articles in THE GARDEN of July 7 and July 28 should be referred to by my querist. My regular readers should file my notes each week for future reference. The compaction in the disorders I have in mind may affect the crop or the gizzard, or both. If the gizzard becomes inactive and food lodges there, the ailing bird may fill its crop with food (which also remains in that organ) or it may entirely lose its appetite and partake of the drinking water *ad lib.* There are many deviations, but the main principle is the same, viz., that something is causing a "blockage," and the food is not being passed on and the bird is not nourished. The food retained in the gizzard is apt to go sour and poison the intestines and internal organs, and this must be carefully guarded against.

Going Light.—Death can come quickly or slowly. When the former, however, there is another factor to account for death besides the compaction. Sometimes the heart breaks down; in other cases a blood-vessel in the brain gives way; while in not a few cases the liver is ruptured. The ailing bird in each instance has a short life after the digestive disorders set in. It will be seen, then, that the inward condition of the affected bird has a say in the matter. A perfectly healthy bird is easier to cure of compaction than one having a fatty liver or heart and so on, where the owner has to contend with several factors. A healthy bird usually has a prolonged death, and in reality starves itself. No matter how much food is in the crop or gizzard, no nourishment is passed on, and the ailing fowl becomes thinner and thinner until its breast-bone is almost as fine in edge as a razor.

RHODE ISLAND RED.

A graceful single-combed pullet owned by Mrs. W. B. Goode, Aldborough Lodge, Boroughbridge, Yorks, who has done so much to popularise the breed.

Keep the Organs Sweet.—Charcoal is a splendid material for keeping sweet the organs and any food retained in the crop or gizzard. I do not know why poultry-keepers do not universally provide it for all their birds. In its powdered form it is mixed in the mash, while in its coarse state it is given in a hopper like grit. All that is needed is a small self-supply "grit" hopper, this being filled with the *coarse* charcoal and hung up on the wall within the house, scratching shed or run. The appliance will hold sufficient material for a long time, and the "cup" will be *automatically* fed from the body of the hopper. Three such receptacles must be placed before the fowls so that they can take either material as they desire it, viz., grit, charcoal, or shell.

Injudicious Feeding.—Overfeeding, inferior foodstuffs, wrong preparation of the mash (the ingredients being insufficiently steamed and bulked), irregular hours of feeding (bracketed with an interrupted supply of fresh drinking water), and presence of an irritant in the digestive organs are causes of this compaction. The everyday use of charcoal will invariably counteract disorders of the digestive organs, and that is why I am so strongly in favour of it. It is very difficult to ascertain the presence of such troubles until they have been in evidence for some time, so that it is wise to take action in advance against the root of the evil. If in co-operation the fowls are occasionally handled to make sure of their condition, such is strongly to be recommended. For a cleaner bill of health, then, let every poultry-keeper make full use of charcoal.

Massaging the Crop.—One can often set aright compaction of the crop by massaging the latter. The poultry-keeper should gently work the food therein by means of the thumb and finger in an attempt to break up the solid mass. In many cases where this is done the food will pass through to the gizzard. If this fails I make the invalid swallow plenty of water and again try the massage. If still unsuccessful I give plenty of water, break up the food, and then, holding the bird head downwards, I try to shake out the contents of the crop bit by bit, placing one finger in the fowl's mouth to keep it open. Poultry-keepers should take precautions against such disorders of the digestive organs by soaking and steaming thoroughly such foodstuffs as bran, clover meal, biscuit meal and palm kernel meal prior to "drying off" the whole with the finer meals. Boiled vegetables and scraps, too, should be thoroughly and finely minced prior to being used in the soft food, and particularly is this essential with bacon and cheese rind. Maize should be given kibbled (or broken) for preference, the *whole* grain being difficult to digest. I have often traced compaction to a blockage caused by a whole maize, and since kibbled maize can be had for a few pence extra I recommend its use.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C. 2.*

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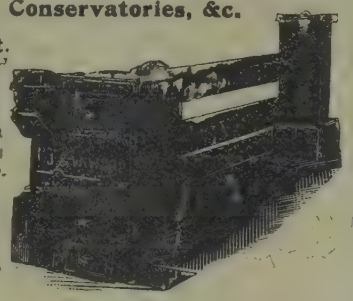

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THE GARDEN

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Snowy-white petals; rich yellow trumpet; very handsome and early; borders or pots.

3.
25 Princeps Daffodils, 1s.
Primrose and gold; early flowering; specially recommended for borders and beds outdoors.

4.
25 Grandee Daffodils, 1s.
White and gold; a most graceful flower; very hardy; does remarkably well in shade.

5.
20 Golden Spur Daffs., 1s.
Glorious orange-gold shaded citron; most magnificent flower; quite unsurpassed.

6.
20 Sir Watkin Daffs. 1s.
Deep orange frilled trumpet, rich gold petals; a huge success everywhere indoors and out.

7.
35 Barri Narcissi, 1s.
Orange-scarlet cup, golden petals; light, graceful, free-flowering; splendid in fibre or soil.

8.
15 Double Yellow Daffs., 1s.
Huge double, golden-yellow, rose-shaped flowers; excellent all purposes.

9.
30 Double White Narciss., 1s.
Fragrant as a Gardenia; pure translucent white; blooms well into May.

10.
20 Double Orange Phœnix, 1s.
The famous Eggs and Bacon Daffodil; absolutely tip-top; very hardy and free.

11
40 Pheasant Eye Narciss., 1s.
Crimson, edged orange cup, purest white petals; flowers often 3 inches across.

12.
30 Ornatus Narcissus, 1s.
Vivid scarlet cup surrounded by snowy-white petals; first-class everywhere

13.
20 Giant Poets Narciss., 1s.
This early, large-flowered variety is new and scarce; white petals, scarlet cup.

14.
30 Large White Freesias, 1s.
The true refracta alba for growing indoors in pots of soil or fibre.

15.
20 Xmas White Narcissus, 1s.
French Paper White Narcissi cannot be supplied; this variety is in many respects superior.

16.
20 Grand Primo Narciss., 1s.
Primrose and gold; otherwise a counterpart of the Early Paper White; very fragrant.

17.
15 Monarque Narciss., 1s.
Yellow flowers with orange cups in huge bunches; very fragrant and early.

18
4 Violet-scented Iris, 1s.
Rich velvety violet with orange throat; deliciously scented; does well indoors or out.

19.
20 Golden Jonquils, 1s.
Dainty flowers for pots or bowls; a few scent an entire room; quite hardy outdoors.

20.
16 St. Brigid Anemone, 1s.
Huge, semi-double flowers in all shades of blue, violet, scarlet, rose, white, etc.

21.
30 Golden Winter Aconite, 1s.
Rich buttercup-yellow, with a dainty green ruffle; makes a fine edging.

22.
16 Scarlet Anemone, 1s.
The most vivid scarlet flower of Spring; irresistibly attractive; everybody stops to gaze at it.

23.
30 Bluebells (Scillas), 1s.
Do well in pots of soil or fibre; a great success under trees and in other shady places.

24.
25 Double Snowdrops, 1s.
Try these in pots of soil or fibre; they are exquisitely pretty when looked at closely.

25.
30 Single Snowdrops, 1s.
For planting as an edging to other bulbs, in beds, on graves, borders, &c.

26.
20 Clara Butt Tulip, 1s.
Most glorious pink, shaded salmon and silver; a huge success indoors and out.

27.
10 F. Sanders Tulip, 1s.
An incredibly dazzling shade of fiery scarlet; a most entrancing colour; huge size; perfect form.

28.
10 White Queen Tulip, 1s.
The only "white" Darwin, a stately and fine Tulip; huge, goblet-like blooms.

29.
15 Tonnaye Tulip, 1s.
Rich cherry-rose, shaded blush, edged delicate pink; one of the most useful.

30.
15 Laurentia Tulip, 1s.
Deep rosy-pink, shaded carmine, with a startlingly rich blue centre; extra.

31.
12 Mrs. Cleveland Tulip, 1s.
Old lavender-rose, shaded lilac and silver; flowers early, large size and stately habit.

32.
25 Gold Crown Tulip, 1s.
Rich golden-yellow, shaded and flamed scarlet; fine bedding and borders.

33.
15 Gesneriana Major Tulip, 1s.
Brilliant glowing scarlet, dazzling blue centre; one of the most gorgeous of all Tulips.

34.
20 Sweet-scented Tulip, 1s.
T. macrospila has the fragrance of Sweet Peas and a fine crimson-scarlet colour.

35.
20 Rosalind Tulip, 1s.
Charming; cherry-carmine shaded rose, with white zone and blue centre.

36.
10 Inglescombe Yellow Tulip, 1s.
Perfection in form and colouring; deep canary-yellow; magnificent.

37.
20 Maiden's Blush Tulip, 1s.
One of the daintiest; white edged and feathered with rosy-cerise; the Picotee Tulip.

38.
15 La Candeur Tulip, 1s.
Pure white; very scarce; fine for bedding, borders, pots, &c.; good for cutting.

39.
15 Parisian Yellow Tulip, 1s.
Rich yellow; elegant flower; showy and reliable; beds, pots, borders, &c.

40.
20 Cottage Tulips, Mixed, 1s.
A very fine showy mixture; can be well recommended. Special price per 100, 4/6.

41.
15 Darwin Tulips, Mixed, 1s.
Includes a lot of fine art shades; very useful for cutting. Per 100, 6/6

42.
50 Mixed Daffs. and Narciss., 1s.
Includes many handsome sorts, such as Emperor, Barri. Per 1,000, 18/-

43.
1 Peck "Bulbost," 1s.
Bees' Famous Bulb Fibre Compost. Sent Carriage Paid with Bulbs of 10/- value.

44.
5lb. "Bulbilizer," 1s.
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THE GARDEN.

No. 2396.—Vol. LXXXI.] [October 20, 1917.

NOTES OF THE WEEK

In many districts this year will be remembered as a "Marrow" year, but in others even more notable than Marrows have been the most extraordinary crops of Carrots lifted during the last few weeks, Long Red, Altrincham and Carter's Red Elephant growing a yard or more long and as straight as the barrel of a gun; Model and Prizewinner approaching the length and girth of a man's arm; while all of the "Gem" and the "Favourite" types have done uncommonly well. During the latter days of June we made sowings of several of the most popular stump-rooted varieties, choosing land just recently cleared of early Peas and Potatoes. The heavy rains during August just suited these sowings, and by the end of that month we were pulling excellent Carrots. By the middle of October those left in the bed had developed into specimens large enough for any purpose.

A Potato Competition.—The Dumfries and District Horticultural Society has had a competition, confined to allotment holders, for the heaviest crop of Potatoes grown on an allotment in a row of 5 yards. The Potatoes were lifted in the presence of and weighed by members of the society's committee. The number of entries was large. Three prizes were offered for Dumfries allotments. The prize-winners were as follow, and the weight given is that of the crop as lifted: First, Mr. S. Thom, Barkerland Allotments, 4st. 4lb.; second, Mr. J. Ross, Annan Road Allotments, 3st. 1½lb.; third, Constable Killop, Johnstone Park Allotments, 3st. 0lb. 6oz.

New Fruit: Plum Victor Christian.—This new Plum, shown before the Royal Horticultural Society on the occasion of the exhibition of British-grown fruit on October 9, when it was given an award of merit, is best described as a late Monarch, and as a successor to that good, well-known variety will be as welcome to the private gardener as to the market man. Of dark colour, it is also not unlike Monarch in form and outline. It was shown by Mr. Vizard, Churchdown, Gloucestershire.

Well-Tried Pelargoniums. The Ivy-leaved Pelargonium Mme. Crousse, referred to in "Notes of the Week," October 6, is, as therein stated, a good old variety. It was sent out by its raiser, M. Crousse of Orleans, in the spring of 1881, soon became popular, and has held its own in the front rank ever since. About that time, and for two or three years afterwards, M. Crousse raised several other desirable varieties, some of them remarkable for the bright colour of their blossoms, but none took the British fancy so much as Mme. Crousse with its pretty silvery pink blossoms. Three of the most popular kinds of the present day are, as they have been for many years, Mme. Crousse, sent out in 1881; Souvenir de Charles Turner, in 1885; and Galilée, which was distributed by M. Lemoine of Nancy in the Jubilee year of 1887. Varieties innumerable have been put into commerce since then, but none of them has been regarded with as much favour as the above-mentioned trio. On this point it has before now been asserted that our growers for Covent Garden Market are very conservative, to which the answer may be given that they grow those plants which sell best. We once recommended some of the newer varieties to a grower, and having grown a batch he told us that as he could not sell them till the above-named kinds were disposed of or nearly so, he should for the future depend upon the well-tried ones. It may be noted that the first double-flowered Ivy-leaved Pelargonium, Kœnig Albert, was sent out in 1875 at a price of 15s. each.

Clematis "Die-Back."—Mr. Jackman's very interesting discussion of this subject in the current Journal of the Royal Horticultural Society leads us to think that the following notes from one of our readers may be of some interest: "In 1914 I (unthinkingly) planted a Clematis Lady Northcliffe on a south wall, and the border is extremely hot and dry, the soil a light sandy loam. The plant was grafted on a Vitalba root. In 1915 it made fair growth, but in the autumn it suddenly collapsed, and I gave it up for lost. However, the spring of 1916 found it growing strongly and it soon reached 8 feet in height and flowered well. In 1917 the wood was sound and unkilled by winter, so it broke well from top to bottom and made good growth. However, after the hot days we had in spring it died off entirely, and I again gave it up as lost. The rains of August, however, revived it, and it has now reached some 4 feet high and is just about to flower. These facts lead me to think that, as has been before suggested, one cause of the 'die-back' is sunstroke. In a cool and comparatively sunless year, as in 1916, it could support a warm exposure and no shade, only to fall a victim to the scorching days of early spring in this year. I have other plants of Clematis on the same soil, planted under hedges of Rhododendrons, so that the stem is always shaded, and these flourish enormously." Our British Clematis generally grows in such a position, and it would be interesting to know if any of our readers have noticed that their losses from "die-back" have been less during cool months than in those of hot sun, assuming, of course, that the stems of the plants are not in shade. It has also been suggested that the "die-back" of Apricots may be due to the same causes.

Polygonum vaccinifolium.—This handsome Knotweed is perhaps the most striking patch of colour in the October rock garden. Its wiry, vermilion shoots, covered with their tiny leaves, love to ramble over old mossy stumps and rocky mounds, especially where the ground affords some natural moisture and a rather cold aspect. From this network of trailing stems there rises at this season a profusion of upright flower-stalks, each of which is clothed from tip to base with a mass of bright pink florets. P. vaccinifolium is seldom so happy as when grown in company with the charming little Twin-Flower (Linaria borealis), Cornus canadensis, the creeping Gaultherias and other lowly plants which delight in the embrace of moisture-loving Mosses.

THE PROMISING LATE PLUM VICTOR CHRISTIAN.

Gardening Lectures at Sheffield University.—A series of monthly gardening lectures intended for amateurs and war plot holders is being given by Mr. E. T. Ellis at the Sheffield University. The lectures, which include such subjects as "The Making of Plant Food," "Allotment Weeds and Diseases of Crops," and "How to Lay Out an Allotment," are free to anyone interested in gardening. The next lecture will take place on November 7 at 8 p.m., the subject being "How to Work the Soil."

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

APPLE GLORIA MUNDI.

I DO not know where Mr. Bunyard has seen any reference of mine to the above-named Apple. I have never grown the variety nor had any personal experience of it. Judging from the experience of other cultivators, it is a variety that should not be grown in these days when so many better ones are available. Possibly Mr. Bunyard, in his note on page 416, refers to the note on page 385 by "Hereford."—GEORGE GARNER.

APPLE ST. EVERARD.

I AGREE with all that has been said in favour of this dessert Apple. It has more of the flavour of one of its parents—Cox's Orange Pippin—than any other Apple I know. In shape and colour it is all that could be desired. The principal factor, though, in its favour is that it comes in when there is really no other good dessert obtainable. With me it bears freely, though the habit of growth is rather weak, but with more cultural attention no doubt that could be improved. Certainly I shall wish to increase my number of trees this planting season.—E. M.

STORING APPLES.

I WAS very much interested in Mr. Bunyard's article on the storing of Apples and Pears. My experience is the same as his on the question of damage by frost. Frost does not appear to have any bad effect on Apples. Last year was a bad Apple year here, and I had only one large tree of Beauty of Kent that had any crop at all. For want of labour the tree was not picked until the end of October, after several severe frosts. The Apples were placed on the floor of a very open loft, under 2 inches of straw. We had days and days with 25° of frost. We finished the Apples this June; they were without a wrinkle and looked as fresh as if they had just been picked. This is all the more remarkable as Beauty of Kent is not supposed to keep beyond February or March. I may mention that in mild winters the Apples in this loft do *not* keep well.—EDWARD M. HADOW, *Uffington Vicarage, Faringdon, Berks.*

PLANTING FRUIT TREES.

I WAS pleased to note Mr. E. A. Bunyard's strong advocacy of high planting. Generally speaking, planters have always been urged to bury the point of union when the trees are budded low; but my first doubts as to its necessity arose when I was once visiting the great nurseries of Messrs. G. Mount and Sons, Canterbury, where I noticed that no particular effort had been made to cover the union of maidens and bush trees on the Paradise stock. At the time I asked Mr. Harry Mount's view, and he opined that it was quite a needless proceeding. A few years ago I was looking over a small plantation of some three acres of bush Apples which were bearing phenomenal crops, and I observed that the trees, then in their fourth year from planting, were all standing above the soil-level. Remarking on it, I learned that the grower had strong views regarding planting on heavy land such as he had, and to keep the trees high he simply laid the roots on the flat surface and piled soil over them, gathered from the surrounding areas, so that each tree really stood upon a small hillock. That the plan answered was very obvious, for the growth was great and the fruit magnificent; indeed, the finest Allington Pippins and Cox's Orange Pippins I ever saw came off these very trees. The Allington Pippins in many instances were nearly half a pound apiece.—T. A. W.

THE BROAD-LEAVED PLANTAIN.

I HAVE learned some more merits of the Broad-leaved Plantain. My ancient assistant told me later: "Ole-fashioned folk did use to make ointment of it, and counted it good fer burns an' 'flammations 'n' such-like." Mrs. "Busy Bee" endorses this, and says her grandmother used to pound the leaves in a mortar and simmer them in good lard, then strained them carefully, and stored the pale green ointment in pots on the high kitchen mantelpiece. It was used for horses—when rubbed by saddle or collar. On turning to Hulme's "Familiar Wild Flowers" (beloved books!) I find the Broad-leaved Plantain was called in the Highlands "the plant of healing," and was credited with many virtues. When I read this I called to mind Keble's lines:

> "The plants we seek to heal our woe
> Familiar by our pathway grow."

—ANNE AMATEUR.

P.S.—"The Ancient" is a *mine* of rustic lore, and knows much that folks who can read and write *do not*. He can do a good day's work, too, though

"A MINE OF RUSTIC LORE."

he tells me "When Ah wur sixteen Ah wur a-plough-boy, an' 'arned sixpence a day. Ah never had 'nuff to eat, nor much clo'es nayther." I send his portrait, taken when harvesting "'Taturs" last year.—A. A.

IVY-LEAVED GERANIUM MME. CROUSSE

FOR covering the back wall of a greenhouse, where it is difficult at times to get plants to succeed, this Ivy-leaved Geranium does exceedingly well. I had a wall 12 feet high covered with it for twenty years, and huge quantities of flowers were obtainable for the greater part of the year with a minimum of labour.—E. M.

PEA GLORY OF DEVON.

MAY I endorse all your correspondent C. Turner says in reference to the Glory of Devon Pea? He may perhaps like to know that it is of true Devonshire origin, having been raised in the Exeter nurseries of Messrs. Robert Veitch and Son. I have grown it in a small garden for my own consumption for some years, and all those who have tasted it have commented on its delicious flavour. It may further interest your correspondent to know that the award of merit given to it some years ago by the Royal Horticultural Society was granted after having been tried in the Royal Horticultural Society's own garden.—J. R. J.

TOMATO BIDE'S RECRUIT.

YOU do well to call attention to this Tomato, which for extent of crop, evenness of fruit, shape and colour it is difficult to think of a better variety. I saw it growing in the Alma Nursery, Farnham, in August; the plants were simply roped with fruit in clusters of twenty or more.—E. MOLYNEUX.

FABIANA IMBRICATA.

MR. GOODWIN'S note on the above on page 421 will be useful to readers who have been thinking of planting it but are deterred by doubts of its hardiness. It may be of interest to others still further North to mention that Fabiana imbricata has been cultivated for many years on the front of the terrace wall at the range of houses in the Royal Botanic Gardens, Edinburgh, and that it thrives well on a wall in quite a good number of South-west of Scotland gardens. It is a distinct shrub in every way, and is, as Mr. Goodwin well remarks, a *deceptio visûs*, bearing every appearance of a Heath, but is a member of the Solanaceæ, or Potato family. This is apparent on closer examination than is usually given by the average garden visitor.—S. ARNOTT.

WITH me in South Hants this plant has annually flowered profusely for the last twenty years, growing at the foot of a south wall in a border of prepared soil only 10 inches wide and the same in depth. Last winter gave it a serious shaking, but I note it has grown away again this summer all right. It is not so much a question of any particular kind of soil that it requires, but a warm site and plenty of water when making its growth after flowering are the all-important points to obtain success. In the open it does not succeed even here.—S. H.

POTATOES MIDLOTHIAN EARLY AND ECLIPSE.

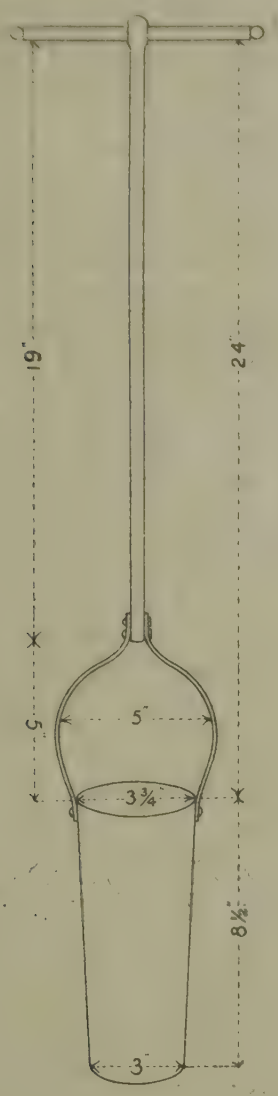
I HAVE been much interested in the references to these varieties in THE GARDEN. Both varieties have cropped remarkably well in my garden this year. The majority of the tubers of both were over average size, very clean, and even in form. I have this season grown more of the old Myatt's Kidney, and it has had a neck-to-neck race with the two sorts named above. On a plot of new ground, under grass last year but trenched last autumn, early Potatoes did much better than on older cultivated ground, and without the aid of organic manure, a light dressing of sulphate of ammonia being given. The flesh of Midlothian Early is yellow, or nearly so, and the flavour very agreeable. When I first came to Hampshire it was my privilege to have as a friend the late Mr. James Clark, the raiser of Magnum Bonum. He said yellow-fleshed Potatoes were much superior to white-fleshed ones as regards flavour, but generally, on account of appearance, the latter were liked best on the table.—G. G.

CURIOUS POTATOES.

I AM sending a photograph of freak Potatoes. The variety is King Edward and was grown in an allotment at Scotforth, Lancaster. The bed is more or less a failure, being full of freaks and distortions.—SAMUEL THOMPSON.

A POTATO-PLANTING DIBBER.

THE accompanying sketch is intended to show the form and dimension of a dibber for planting Potatoes. It may be called a slightly coned cylinder with a handle. The whole of the earth of the first hole made is withdrawn in the cylinder and is expelled by the act of making the second hole, and so on. The soil is left loose and free, and it is easy to fill in the holes by the method described by "Caledonia" in THE GARDEN of October 6. Another advantage of this method is that it leaves a slight ridge 2 inches or 3 inches in height, which serves to mark the rows, thereby enabling one to hoe with safety between the rows before the sprouts appear. As none of your correspondents has mentioned this form of dibber, it may be of local origin, adapted from the implement used for making the holes on putting greens of golf courses.—A. L., *St. Andrews.*



POTATO DIBBER AS USED AT ST. ANDREWS.

"L'ANNEE CHAMPETRE."

IS Mr. Bunyard quite sure that he is right in saying that only the first volume was completed? I know the work only by name, as vegetable books are outside the scope of my collecting activities. My authority was M. Georges Gibault, who says in his "Etude sur la Bibliographie et la littérature horticoles anciennes": "L'Année champêtre (1769, 3 vol. in—12) du Père d'Ardène, est aussi consacrée à la culture des légumes." The book is not mentioned in Pritzel; but it is in the library of the National Horticultural Society of France. In the catalogue of that society (1900) it appears as follows: "Année champêtre (par le P. d'Ardène). Florence, Paris et Marseille, 1769; 3 vol. in—12. Le même, Lausanne, 1770; in—8°." So there are two editions. It seems hardly likely that the two references quoted would have been so made unless the book had actually been published in three volumes as stated.—C. HARMAN PAYNE.

THE FRUITS OF PRUNUS PISSARDII.

I HAVE grown Prunus Pissardii for the sake of its beautiful sweet-scented white flowers and rich purple bronze foliage for many years, but never until this year has it fruited with me, though it may often do so in other localities. The fruits are nearly as large as a small Green Gage and have almost as fine a flavour, with a soft, juicy flesh. They are scarlet, with a dash of burnt sienna, in colour—about the tint of an over-ripe Tomato—and they are nearly as glossy in appearance. The absence of bloom on the fruits is remarkable in one so nearly resembling a Plum, and in this respect they are more like the Cherry, but they do not hang in pairs as Cherries do. The single fruits hang on very fine, dark, hair-like stalks some 2 inches or 3 inches in length, giving the tree a curious but decorative appearance, the colour of the fruits harmonising delightfully with that of the foliage.—H. H. WARNER, *Hoddesdon, Herts.*

WEEDS IN LAWNS.

THE eradication of weeds from lawns is of absorbing interest to many, because who does not delight to look on a smooth greensward free from all objectionable weeds? When some of these become deeply rooted, it is sometimes difficult to get them removed without disfiguring the surface of the lawn. Dandelions are perhaps as difficult as any to get rid of when once they become established, owing to the depth to which the long tap-root penetrates. The method which we tried during the past summer in dealing with this weed may be of interest to some readers of THE GARDEN. A small lawn had become badly infested owing to Dandelion seeds blowing in from a neighbouring plot, and we desired to eradicate the plants with as little disfigurement as possible. With a knife we cut the root an inch or so beneath the surface and drew out the top. Into the small hole thus made by the removal of the root we dropped a small quantity of weed killer, using an oil-feeder for the purpose. The weed killer, of course, dropped right on the top of the freshly cut root and, we hope, will completely destroy it. The weed killer kills ordinary weeds when used at a strength of 1 in 100, and as we used it—half weed killer, half water—we are hopeful of its efficacy. When the work is carefully done no harm to the grass follows.—W. L.

POTATO FREAKS AND DISTORTIONS.

GARDENS AND GARDENING

BY THE REV. G. H. ENGLEHEART.

"IS Saul also among the prophets?" I said to myself on reading Mr. Robinson's paragraph on "Informal Humour." He is new to most of us in this vein, but grave or gay he is always entertaining, and we must all be of his mind that the horticultural Press would be none the worse for a little fun now and again. But in this mood no less than when serious he is the same "W. R.," not over-logical and often self-contradictory. I observe that he, the hater of the geometrical and formal, has "divided up all the space" of his garden "in the simplest way, as plain as any chess-board." Surely a chess-board, if anything, is geometrical and formal in pattern! He next says that the flowers in it are all "as God made them—Cardinal Flower, Rose or Clematis—as I did not see how one could improve on that."

This is a typical instance of his misty-mindedness about Nature and Art. Every one of those flowers—probably nearly every flower in the Gravetye garden—*is* man's improvement on the pattern as God made it, the truth being that the Creator not only allows us to work with Him in His creation, but has from the first laid it upon us as a task that we shall improve the material given us. God gives us the grass, but it is for us to cut and roll it into the greensward, which nowhere exists apart from man and his handiwork. Then Mr. Robinson, because he cannot quite successfully argue his *bêtes noires* "formal" and "informal" out of court, tries to laugh them out. But I am not so sure, after all, as he seems to be, that it is always ludicrous to speak of an informal tree. How, for instance, can we better hit off the character of a Cypress or an Irish Yew than by the epithet "formal"? And is not a Birch or a Willow informal by the side of these?

To myself, as a humble student of English, it would seem a pity to discard such useful words, even if it could be done. But it cannot; they are too firmly fixed in the language in this connection, and, as Horace said ages before English existed, it is the current use of a word that settles its meaning. And it is just here that Mr. Robinson is altogether at fault in his definition of the formal garden: "It is only where the plants of a garden are rigidly set out in geometrical design, as in carpet bedding and bedding out, that the term 'formal' is rightly applied." This is purely his own, brand-new definition, and his only, and is entirely mistaken.

The confusion of *gardening* with *garden*, always so prevalent in his mind, is conspicuous here. When it is difficult to frame an abstract definition of an object, we can often grasp its characteristics by considering several examples of the same thing. Take, then, the gardens of Haddon Hall, Prior Park, Montacute, and Risley Hall. These are seen to be, one and all, quite different in feature from the other sort of garden, the garden as God and Mr. Robinson made it. Accepted English, spoken and literary, has always called these gardens "formal," and in giving the name no one thinks for a moment of the arrangement of the plants in them. I do not know that I can formulate a quite satisfactory definition, but something like this is, at all events, nearer to the general acceptation than Mr. Robinson's: "A formal garden is a garden planned in more or less

intimate connection with the architecture of the house to which it belongs." If this definition holds good. it gives a key to the whole question at issue between the Robinsonian and the Formalist.

I will here repeat, *sans phrase* and in all sincerity, that no one can appreciate Mr. Robinson's life-long work more than myself. He, more than anyone during two generations, has made our people see the beauty of tree, shrub and plant, in leaf and flower, in earth, on rock and in water. He is somewhat of a dreamer and a visionary, but has always stood nearer to me on that account. I find no one more difficult to "get on with", than the man who dreams no dreams and sees no visions.

If I have any small quarrel with him, it is that he has shown himself rather *borné*. He is reluctant to live and let live, to see value in work done and books written by others and on lines which need not cross his. Some of these whom he slights are of a more generous spirit. When he says they know nothing of gardening, they do not retort, as they might fairly, that he knows nothing of *gardens*. For his authority and reputation assuredly lie in the domain of gardening rather than of the garden. Now the men of Tudor times and after who laid out our classical examples of the formal garden, such as I have named, thought very much more of the garden than of gardening. They had not a hundredth part of the wealth of plant and blossom that we possess, and from sheer lack of material could not possibly have so highly educated a sense of form and colour in plant and flower as we have attained to. But their sense of what is fitting and desirable in a garden, apart from its contents, was truer and finer than ours, and came to them by a way which many of us moderns have foolishly closed to ourselves—the way of home-love. They did not leave their homes for London in the loveliest months of the year, but lived their lives in them, and the garden was to them a part and parcel of the home.

The house, as it were, stretched out the arms of its masonry and gathered the garden within its fold, making it a *hortus inclusus*, a "pleasaunce," full of the shelter, the quietude and the refreshment of the home itself. On entering such a garden one has an immediate consciousness of these qualities and of a kindly, ancestral, *human* spirit pervading it which is rarely felt in the best of modern gardens. The "best" modern garden is too often only a magnificent assemblage of plants, and might just as well be a mile from the home and reached by an underground tube. I have used the word "fitting." The makers of those older gardens had a perception of *the congruous* which would never have suffered the notes of moderation and simplicity and repose to be jarred upon by masses of rough stone built up on the level of an English lawn, or in a sham ravine dug in it, in a monstrous parody of the Alps. Many of them knew Italy and brought from Italian gardens such features as were consonant with English conditions. But they also knew their own climate too well to show the imperceptiveness of our doctrinaires who make a pergola the preposterous *sine quâ non* of every respectable garden.

I was staying some years ago with the late Lord Redesdale, a foremost exponent of the modern school of gardening. I do not know how it may be now, but at that time the palatial house looked as if it had suddenly fallen from the sky into a large expanse of unkempt ground, while a hillside at some little distance, beset with winding paths and every choice shrub and plant that love and money could collect, constituted the garden. To my host's questioning what I thought of his garden I answered, over-truthfully and not at all to his pleasure, that it was beautiful but not a garden. In refutation he read me, from a book of his own writing, an eloquent description of an Eastern forest glade, and said "That is what I call a garden."

This is, of course, the extreme naturalistic view, held perhaps by very few and not by Mr. Robinson. Nevertheless, our moderns at large are given to much voluble and unthinking discourse about Nature, forgetful that a garden is primarily a clearing redeemed from Nature, into which she can be admitted only on terms and under human restraint. It is forgotten that all civilisation is artificial and formal, and that the garden is a part of civilisation. The only absolute informality was chaos, when the earth was "*without form* and void." If Mr. Robinson answers that a garden must still be natural, I reply that still more must it be human, and that too many of our "best" modern gardens seem to have no human association whatever. All this is expounded at length, very ably and beautifully, in "The Formal Garden in England," a book I recommend to those who have not read it, and the disdainful dismissal of which by Mr. Robinson has drawn me into overmuch print.

MR. BECKETT'S ONION BED.
Yield about 2cwt. per rod.

ONION GROWING

By EDWIN BECKETT.

IN these stirring times, when probably more than half of the population of the British Isles are, with varying success, doing their utmost to help to increase the country's food supply by growing vegetables, reading matter in this direction is sought for helpful advice on how to cultivate. Foremost among the members of the vegetable kingdom are the Potato and the Onion, and the latter is not such a difficult subject to grow as many think.

Here at Aldenham we have recently garnered a good crop of an estimated weight of 3½ tons—if anything, over this weight rather than under—and this product was reaped from a plot of ground measuring 100 yards long by 14 yards wide; and though we have other plots of Onions, this is the one I purpose dealing with in this short account, because the conditions under which the Onions were grown are approximately those under which hundreds of other folk are growing them.

The whole secret of success lies in two things: proper preparation of the ground and the preliminary bringing on of the young seedlings in seed-boxes.

Dealing with the latter first, there is no question that it is *the* way of cultivating Onions, and I have advocated this for many years past. By sowing the seed thinly in boxes early in the year (February is best) and bringing them on under glass (a cold frame, carefully tended, is ideal for this purpose), they can, when they attain the age when the leaves appear, be planted out in the open, after first hardening off. By this method they escape the ravages of the Onion fly, being of sufficient size by the time that pest visits us to resist its attack. The bulbs mature much earlier, and can thus be lifted earlier, which is a distinct advantage as it frees the ground for winter crops; and we also obtain finer and better keeping bulbs into the bargain.

Now to revert to our plot. The seed was sown in boxes, as recorded, about the second week in February, and the plants were eventually put out between May 1 and May 12. There were twenty-one rows of various sorts, which were planted at distances of 14 inches between the rows and 4 inches from plant to plant. In addition there were two rows of Ailsa Craig at 6 inches apart and the rows 14 inches apart; also four rows of Walker's Exhibition and Ailsa Craig, and in these cases a space of 16 inches was left between the rows and 14 inches from plant to plant. The bed was completed by nine rows sown in the open in drills at a foot apart.

The crop was ready and lifted by September 11, yielding the weight previously mentioned. The box-sown Onions were far ahead of those sown in drills, and the value of the one method over the other is inestimable, for one minimises the risk of losing one's supply owing to the Onion fly's destructive methods, and thus a good crop is assured. It is interesting to note that the whole of the planting out was done by unskilled female labour, and the failure of plants was practically nil.

On the score of ground preparation I would once again urge the importance of deep cultivation and careful enrichment by manuring. These are essential for the growing of Onions, and once the ground is in good condition the plot can be used for a number of years for Onions, provided it is well worked each season and the necessary food added.

STORING THE ONION CROP.

It has not fallen to the lot of everyone to be successful in obtaining a good crop of Onions this year. Unfortunately, the crops are a long way from being satisfactory, with the result that market prices are very high. A common source of waste is due to improper ripening and unsuitable places for storing. It is essential above all else that Onions should be thoroughly ripened, and then stored in a dry, airy place. They keep well if spread out in layers on wooden floors or on shelves, or better still if plaited in ropes and suspended in a dry shed. If the bulbs have not had a thorough ripening in the open air it is a good plan to finish them off under glass. On the occasion of a visit to the Allington Nurseries last week we were interested to see Onions suspended in bunches on poles in one of the spacious fruit-houses, and where space under glass is available the method may be followed with good results.

AMATEUR WORK IN THE GARDEN

By J. Duncan Pearson.

"ONE OF THE GREAT SECRETS OF SUCCESS IN MANAGING A GARDEN LIES IN TACKLING THE MOST IMPORTANT WORK FIRST."

THERE are so many amateurs now working their own gardens, either from choice or necessity, that I thought a few hints for their guidance would be appropriate and, I trust, helpful. First, learn how to use garden tools properly. Watch a good man at work with spade, hoe, or rake, see how he does it and, if necessary, ask a few questions. A good worker can be "spotted" by the ease with which he seems to work, the pace he makes, and the result of his labours. It is a mistake to think that strength is *everything* in garden work; skill plays a great part as well as muscle. Of course, a strong man who is skilful will beat a weak one, though he be equally clever. At the same time, a well-trained man of light build will do more and better work than a clumsy, untrained one, though he be much the stronger of the two.

Secondly, do not start with a rush that you cannot possibly keep up for the whole time at your disposal. This is one of the most frequent mistakes made by ardent amateurs. If you start at too great a speed you will soon get tired and either have to stop altogether or be inclined to wander off to some fresh job, which I will presently show is not the best way to get or keep your garden in order.

Thirdly, always try to finish the job you are at rather than run off to something fresh. I grant you it is often a pleasant change, but it is not the way to get the work done. In starting fresh work you will have to fetch fresh tools, which will waste time; so try to do one thing at a time and do it well. An untrained amateur will spend a half-holiday something after this style: After lunch or midday dinner he strolls into the garden with an unfinished pipe in his mouth, he looks round to see what wants doing, catches his eye on some especially flourishing weeds, makes a mild attack upon these—still smoking his pipe—and throws them about promiscuously (not considering the time that will be wasted presently in gathering them up). Having become somewhat heated, our friend then takes off his coat, knocks out his pipe and decides to start in earnest. The weeding has by now lost its interest or looks too hopeless for a short afternoon. So he ties up a few straggling plants, which, by the way, ought to have been seen to a month before! Now, perhaps he thinks it is time some flower or vegetable was sown, so off he goes for fresh tools and the seeds. Perhaps before the seeds have been sown his good wife calls him to tea. This gives joy, as it is a pleasant break which he feels is well earned after all that has been done in the last two or three hours. After tea another pipe, and then a fresh attack upon the garden. In crossing the lawn our amateur sees some very bold, bad weeds, and is again off for a weeder and spends half an hour at the Plantains and Dandelions; then, having contracted a backache, he seeks fresh work which will relieve the back. Having tried one or two more jobs and tired of them all, our friend now espies some rubbish which looks as if it needed burning (once started one can *stand and watch* a fire burn), so a busy but rather fruitless afternoon is brought to a close, and the amateur goes into the house to tell his wife how many tough jobs he has tackled and accomplished in the half day. Now, if a professional gardener were to follow this good man, he would say: "Mr. Jones said he had been hard at it all the afternoon; but I'll be hanged if I can see what he has done!"

No; that is not the way to get through work. Rather do one thing and do it thoroughly than try to do half a dozen, none of which is properly finished off.

One of the great secrets of success in managing a garden lies in tackling the most important work first. By "most important" I mean work that will not wait without loss to the gardener. Seed-sowing and the transplanting of young plants are things which it does not pay to neglect when the right time arrives. For instance, take the early spring, when Onion seed should be sown. If a favourable day should be missed, it may be weeks before the soil is again in proper condition, and valuable time is lost which can never be made good.

DRYING ONIONS IN THE ALLINGTON NURSERIES.

A gardener should always try to choose the work according to the state of the soil and weather. For instance, if he has made up his mind to hoe, dig, or sow seeds on his next half-holiday, and the day should be wet or the ground wet from previous rain, he would be better employed in the house reading a book than in the garden, where he would be puddling the soil into a sticky mess and doing far more harm than good.

In fine weather think of odd jobs which may be done on a wet day; for if you wait for the wet day you will probably be so annoyed that it is not fine that you will be unable to think of anything which may be done under cover.

Another point is: Always be looking ahead. Think of next week, next month, and next year; if you do not do so, you will find the garden short of many things it ought to contain.

When all the spring sowing is done, do not think that sowing seed is over for the year! Lettuces and other saladings must be sown about every fortnight if a proper succession is to be maintained. Then, from April to September, seeds of perennial and biennial plants, such as Primrose, Aquilegia, Canterbury Bells, Myosotis,

It is equally important not to miss the right time for putting in young plants, whether they be vegetables or flowers. It often pays to put off the transplanting of greens for a week or two if the weather be dry, rather than plant in dry weather and have the extra labour of watering afterwards. But when the rain does come, do not miss it for anything! Obtain help if you can and get those Cabbages or Brussels Sprouts transplanted while the soil and *air* are still moist; it may be that in two or three days' time it will be dry again.

In the flower garden an important matter is the staking of such fall plants as need support. If this work is not done in good time, it will give far more trouble and the results will not be good. Always put your sticks to such plants before they appear to need it; they will then grow over and hide the stakes and ties before the plants come into bloom. If left until they are in flower, some of the growths will have got broken or be flat on the ground, and when tied up they will probably look like besoms. And pray, Mr. or Mrs. Amateur, do not use 4-feet stakes for 3-feet plants; nothing looks worse than sticks standing up above the plants. I once saw a bed of Gladioli planted singly in straight rows and staked with 4-feet Bamboo canes; the effect was rather like soldiers standing four deep with rifles at the "present"!

Wallflowers, &c., must be sown to bloom the following year. And how cheaply these things can be produced from seed! A sixpenny packet of one or a threepenny packet of another will produce all the plants you require and perhaps to spare. Certainly time is required to sow and transplant these things, but you have them close at hand when the right time comes for setting them out in their flowering quarters, instead of having to wait for them coming from a grower, from whom they may quite likely arrive half dead.

Again, towards the end of the summer many vegetables may be sown, either for use as soon as grown or to stand the winter and be ready for use in the early part of the following year. It is hardly necessary to name all these things, for they will be found week by week in the columns of THE GARDEN.

It is a good plan for amateur and professional alike to make a habit of keeping a diary of gardening operations, not only making notes of all work done, but noting afterwards whether the work was done too early or too late. Do not be in too great a hurry to sow with the coming of the new year. Even under glass it is a mistake to sow *too* early, for even if the seeds germinate all right they will make but poor, "drawn," weakly plants if they do not get a proper amount of sun and light; and sunshine is often a very scarce thing in the first two months of the year. Again, do not think that there is a fixed date for seed-sowing in the open. No; you must be guided by the season. One year you may with safety sow your Onions early in March; in another it would be impossible to do so with any chance of success.

One more "Don't," and then I think I have done! Do not be in a hurry to condemn seeds and say they will not grow. The soil may have been cold or over-wet at sowing-time, or dry weather may have set in after sowing and the soil have become "set" and nearly as hard as a road. Or, again, slugs may have eaten off the seedlings while yet in the seed-leaf stage before you had even noticed that they had germinated. Only this year I sowed a bed of Carrot, of ample size—thinking of the war and a possible food shortage! The seedlings were some time in coming up, but one day I said: "Oh, those Carrots have come well; I can see them half across the garden!" Some four days later there was hardly a seedling left; those thrice accursed slugs had taken the lot. Now, if I had not chanced to see the bed at the first time, I might easily have said that the seed had not grown.

I do not think it an exaggeration to say that probably nine-tenths of the complaints of the non-germination of seeds are ill-founded, and that the failures arise from sowing at the wrong time, an improper condition of the soil, or the attacks of slugs or other depredators. In saying this I am not only defending myself as a seedsman, but the whole of the seed trade, for I feel sure that no seedsman worthy of the name knowingly sells seeds of even doubtful quality. There may be cases when, owing to very bad harvesting conditions, seeds are sent out which are not up to the usual standard, but the cases where really *bad* seeds are distributed are very few and far between.

THE WILLOW GENTIAN, SELF SOWN, NEAR A NARROW GRASS PATH.

GENTIANA ASCLEPIADEA

(THE WILLOW GENTIAN.)

BOTH in garden and woodland this is one of the delights of mid-September. In places it has come by self-sown seed and shoots up through low bushes of Alpenrose with a backing of Male Fern. But in many other positions it has been planted. Where a wide grassy way goes up into the wood there are Rhododendrons, with an irregular edging of Andromeda axillaris. The Gentian occupies spaces between the two, and shows up finely with its long, arching sprays with the pairs of purplish blue flowers. But perhaps the most successful planting is where a rocky bank about 2 feet high is crowned for some yards with handsome tufts of Hart's-tongue Fern. Here it is planted between and behind the Hart's-tongues, which are now in their fullest and brightest frondage. The combination has proved a happy one both as to form and colouring, and may be confidently recommended to intending planters of this capital autumn flower. G. J.

The Flowering of the Century Plant

(AGAVE AMERICANA.)

BY EDWARD H. WOODALL.

WHO is there that has not heard of the flowering of the Century Plant, the Aloe, or, more correctly, Agave americana; but who ever talks of its beauty? Every traveller on the Riviera or in other Southern lands is familiar with its splendid flower-stem and its many candelabra-like branches thick with seed-pods; but how many, I wonder, have seen it in flower. It is one of Nature's tragedies, one may say, for when a plant, after many years of patient growth, has at last accumulated strength to perfect its flowering, it might well be expected that its season of bloom would be prolonged. In the case of the American Aloe it is just the reverse, for it is so short a time in perfect beauty that it amounts, as one may say, to a tragedy in the flower world. Only think of it! In three short days the expansion, the full flowering, and the fading of the flower of the Century Plant is complete! After all these many years of steady growth—varying from fifteen or twenty years up to the extreme limit of one hundred years in the most unfavourable conditions—all is finished so quickly that few folk ever see the Aloe flower in its beauty, and there are not a few who will deny that it has any, simply because they have missed their chance.

Lilies, as a rule, expand their flowers one by one, beginning from the top, as in Lilium giganteum, and from the bottom, in most cases, as shown in L. auratum, L. candidum and many others; but not so in this stately plant. Every flower on each branch, whether at the top or at the bottom of the spike, expands the same day, almost the same hour, and the whole flower beauty is past and over in three days. Never shall I forget it. Driven down by force of circumstances to Nice in mid-August, I saw, one scorching afternoon, a group of fifteen or more tall flowering Aloes with brilliant lemon yellow Lily-like flowers widely expanded against the pale turquoise blue of the summer sky, and so surprised and overcome was I that, like Linnæus of old, I was tempted to bow the knee to their surprising beauty of colour and shape. All the flowers were evidently freshly opened, and so I returned the next day to feast on their beauty and urged other friends to do the same. Lo! on the third day I went up with friends to fix in our minds the curiously distinct colouring of lemon yellow Lily and blue green of stem and leaf. But when we got there, where were my lovely lemon Lilies? Nothing was left but dirty whitish brown faded petals and fast-swelling seed-pods; not a flower remained to be seen! I rubbed my eyes in the vain hope they were merely dazzled, until conviction seized me that all was over and there was nothing left to admire. Then I set about exploring some smaller groups of flowering stems retarded by growing in rather deep shade, and there I saw that the flowers fertilised so quickly in the hot sunshine that they faded at once, and that only an accident prolonged their beauty by a single day.

Some good Pears, like the Jargonelle, for instance, ripen so quickly that it is commonly said you must sit up all night if you wish to eat them in perfection; and so it may almost be said of the Agave Lily, which is really only one whole day in perfect beauty, the crown and glory of so many years' growth. The first day is taken up in opening; the second, its flowers are fertilised; and the third day the colour has fled and turned to a dull whitish brown,

which causes the unobservant man to say there is no beauty in the Aloe flowers. Now I know why so few speak of the beauty of these lemon yellow Lily flowers, but, believe me, an Agave flower-spike is indeed a glorious sight on the right day! *Sic transit gloria florum.*

Hardiness of the Iris

LAST winter robbed our gardens of many apparently hardy shrubs and suffruticose plants. The early frosts of November were succeeded by the ungenial weather of December and January, which culminated in the prolonged Arctic conditions of February, when the mercury dropped below zero. Then was begun the havoc among cherished plants, while the long spell of bitter winds in March, and April's frost and snow sealed many a death warrant.

The snow left at last on April 18, and after an incredibly few days summer burst upon us, cheating us of the long-desired spring. Nearly a month's drought followed and, coupled with the powerful sunshine, Daffodils and Tulips came and went with a breathless burst of colour; but later spring plants benefited by refreshing thunderstorms.

It was cheering to see how rapidly and well the long-retarded Iris foliage came up through the ground when released by rain and sunshine; and now that the Iris season is over we can chronicle a record one, brilliant with blossom. The special massing of colour was largely due to the retardation of flowering, and consequent concentration of flowers in a shorter space of time than usual. Most of the plants were unusually robust and free from disease, but there were a few kinds which failed to flower. In the following notes the earliest dates, recorded during a long series of years, are compared with those of this abnormally late season. Iris unguicularis.—Not one flower succeeded in opening, though there were flowering shoots 3 inches above ground. All were destroyed by frost. The long flowering season, from November to April, just coincided with the wintry spell, and the light covering of Bracken failed this year to be a sufficient protection

I. fimbriata does not flower here in the open, though its foliage is hardy enough; but for the first time it was cut back severely, though not quite killed. I. tingitana is a tantalising plant and will not flower here outside, but its long foliage came up as vigorously as usual. I. tectorum, usually so strong and free flowering, fared badly, but some of the shoots survived and flowering began on May 26, three weeks later than usual.

Of the Juno Irises, sind-pers, a pretty silvery grey hybrid, protected by an overhead light, flowered on March 22 instead of February 15; and bucharica began on April 20 instead of at the end of March. The bulbous species reticulata, which usually begins to flower in early February, waited till April 3; and tuberosa, instead of late February, only began on April 30.

May came in with a sudden burst of warmth for the first week, and this brought out the Dwarf Flag Irises with a rush, and they made a grand show for a fortnight or so in every shade from creamy white, sulphur, lemon yellow, through pale blue, violet and crimson to reddish and deepest blue purple. Pumila cærulea is always the first, beginning about April 11. This year it was the 29th, followed by atropurpurea and several forms of Chamæiris on May 2. Lutescens, Statellæ, several aphyllas, balkana, Fieberi and benacensis followed between May 6 and 16, their usual dates being between April 15 and 26.

The Intermediates followed on quickly and flowered most profusely in their delicate shades of white, greyish blue, cream and yellow, besides red purple and deep blue. Charmant began on May 13, and was followed by King Humbert, Odin, Ivorine, Mars, Dolphin and Queen Flavia before May 20, fully a fortnight later than usual.

The tall late Flags which overlap these were also delayed, but made up for it when they came by a gorgeous display of bloom which astonished visitors who did not know what Irises can do in this respect. Usually the first week in May sees Purple King, Kharput, florentina and font-arabie, but it was May 20 before their first flowers opened. After this the flowering of the later kinds became more normal, with only three to seven days' retardation, most of them opening between May 28 and June 6, such as the various forms of pallida, plicata, flavescens, amoena, squalens and variegata. The pink forms such as Queen of May and Her Majesty, were specially good; also Iris King and Peacock Eye, and they lasted till the third week in June. A few failures must be mentioned. Black Prince did not flower, nor the tender Eastern kinds albicans and Madonna, nor the white kashmiriana.

Turning to another group, the Regelias and their hybrids flowered amazingly. Vaga began a week late, on May 10, and Leichtlinii not for ten days more; but the many forms of Korolkowii came at their usual time in mid-May; Susiana and sofarana not till after May 20, over a week late; and the Regelio-cyclus hybrids were from three to fourteen days late, May 6 to 18 instead of April 25 to May 8, beginning with Charon, followed by Isis, Hesperia, Hera, Thalia and Eos, and ending with Medusa.

The narrow-leaved Apogons, Tolmieana, Tollong, longipetala and graminea, flowered in late instead of mid May, and the various sibirica forms were similarly retarded; but most of the later moisture-loving ones came at about the average date—virginica at the end of May; ochroleuca, Delavayi, spuria and its hybrids in late June; Kæmpferi in early July. Of the Chinese, Bulleyana flowered in mid-June, and Wilsonii later.

The foregoing notes show that in spite of the utmost rigour of winter, we can depend on an ample display of Irises, provided that the preceding summer and autumn have been hot enough to ripen their reserve tissues.

ELEONORA ARMITAGE.
Dadnor, Herefordshire.

SEDUM POPULIFOLIUM IN THE ROCK GARDEN AT EARLHAM HALL.

Sedum populifolium

THIS distinct Sedum is a very old inhabitant of British gardens, but is not so often met with nowadays as so charming a plant should be. It was introduced in 1780 to Kew by its discoverer, the celebrated Russian naturalist Pallas. He found it in Siberia—a fact which vouches for its hardiness. It is the only thoroughly hardy Sedum that I know of with a shrub-like habit and woody stems, and if given a good open and sunny position and treated well as to soil, it will grow into a small shrub 1½ feet high and spread out wider than its height. The leaves are not very much like those of a Poplar, to my mind, except perhaps as regards their long and slender petioles. Anyway, they have provided the plant with a name, and they manage to be attractive during the seasons they appear on the twiggy growths. A pleasant light green when young, they become bronzed, and in some seasons and if grown in a sunny position they achieve a fine series of shades of red before they fall. The flowers are in round heads and of a very pale pink. They cover the plant in August and September so as almost to hide the leaves, as may be seen in the accompanying photograph, taken in the rock garden at Earlham Hall this year. It grows easily and quickly from cuttings, like most members of its family, and at one time was much grown as a pot plant. E. A. BOWLES.

THE CULTURE OF FRUIT TREES.—IV

(*Continued from page 432.*)

PEARS: SELECTIONS FOR UTILITY AND QUALITY.

"AFTER a Pear, wine or the priest," said a fifteenth century French proverb. Happily, we may approach the Pears of the twentieth century with less foreboding. The introduction of the melting Beurrés, which stand to the memory of the little band of Belgian raisers—Van Mons, Hardenpont, Esperen and others—has brought this fruit within the range of the most delicate interiors. It is true that there still remain a few sorts which only the eupeptic can tackle with impunity, but these I will avoid in the following lists.

Of the fruits which have been brought to garden uses, none is more amenable to the restricted pruning and training that this culture entails. One is reminded of an old French writer who advises that one particular variety should be planted near the house, as it "pines for its master's breath" if banished to the outskirts of the garden. There seems a complacent and almost feline air about a Pear well furnished with fruit, and the analogy might be pressed further did I not realise the demands of the times for the severely practical.

But to return to the consideration of the best forms. For open ground, cordons and bushes are suitable for most kinds and are the best form for the small garden. Many sorts do well as standards, and I think more should be grown in this way in shrubberies and parks, flower, fruit, and, in many, autumnal colour being alike beautiful. Early varieties should not, for small households, be grown in this form, as they often produce a large number of fruits ripening in a short time. The medium and late sorts will be more useful—such kinds as Beurré Hardy, Conference, Durondeau, Emile d'Heyst, Josephine de Malines, Louise Bonne and Thompson's; and for cooking, Catillac, Bellissime d'Hiver and Vicar of Winkfield all thrive as standards.

All Pears do well and improve in appearance on walls, except, perhaps, the early sorts, which are certainly of better flavour from the open. The old practice of putting the more choice varieties on the wall cannot be bettered. Fans, cordons and espaliers can be used for this purpose, and if carefully attended to, during the ripening season especially, will not be ungrateful. When cordons are grown on walls or trellises it is well to plant them upright at first, as this gives a better chance of developing fruit spurs on both sides of the stem; they can then be lifted in three or four years and planted diagonally. For the fancy trainer no tree is so plastic as the Pear, and to those of contemplative temperament this is a very fascinating occupation. The young or old man in a hurry should, however, pass by on the other side.

In selecting a utility list of Pears, we are assisted by the fact that quantity is not in this fruit always divorced from quality. There are few Apples which crop abundantly and which are at the same time of good quality; but Pears have managed things better.

Utility List.

Jargonelle.—The indispensable fruit, cropping freely and thriving under the most adverse conditions. "Born in 1600 and still going strong." An east or north wall may be profitably occupied by a tree of this variety.

Colmar d'Ete.—A small but good fruit, hardy, sturdy in growth, and a never-failing cropper. Flavour sweet, juicy and refreshing.

PEAR DOYENNE DU COMICE. THE FIRST AMONG ITS EQUALS.

Fondante d'Automne.—Medium size, but over average quality; its French name, Belle Lucrative, is at once descriptive and true.

Conference.—Of Calabash shape, flesh melting and good; if only one Pear is to be grown, this is the one.

Josephine de Malines.—This will keep till April or May, and has the great advantage of ripening slowly and not all at once. Does well as a standard or, indeed, in any form.

Quality List.

As in Apples, it is necessary to pass several of the earlier sorts and start with

Williams' Bon Chretien.—There are some who consider this Pear too sweet and musky, but I fancy the majority of epicures will consider it the first Pear of good flavour. If Mr. Laxton's new Supreme lives up to the good impression it gave me when presented to the Fruit Committee of the Royal Horticultural Society, Williams' will, I think, be displaced in this list.

Thompson's.—After a hundred years this Pear is far too little known; quite the best flavoured of its season. A rather poor grower, but such things are details of no importance in the search for the best.

Marie Louise.—Too well known to need further praise; a little shy, does very well on light soils.

Beurre Superfin.—A serious rival of the regal Doyenné du Comice, but it comes a little earlier and so escapes the fate of being dethroned. Not very fertile in all soils, but in places most reliable.

Doyenne du Comice.—*Primus inter pares*, only here do not happen to be any! Plant north, south, east and west, on walls and off, on dry and on wet soils, so perchance its queenly desires may be discovered. Handle with reverence and consume with thanksgiving.

Winter Nelis.—I had almost written "small but good," but to propitiate some readers, let me say "small and good." A really buttery fruit. A warm wall and a delayed gathering are necessary.

Josephine de Malines. — Will come into the epicure's list also.

Bergamotte Esperen.—A text for a sermon on the beauties that may lie under a rough exterior. A warm spot should be chosen to trap all the autumn sunshine.

E. A. BUNYARD.

The Grease-Banding of Fruit Trees

THE prevention of injury to fruit trees, especially Apples, by grease-banding has no doubt been somewhat neglected of late owing to the want of labour. Thus we hear of a loss of crop and defoliated trees, both of which are aggravated by neglect of winter and summer spraying. It is not only the current season's fruit crop that suffers when the main leaves are destroyed, but it is the subsequent growth and the foundation that should be laid for future crops that are in jeopardy.

Many persons do not agree with grease-banding, possibly for two reasons: First, some orchards are almost immune from winter moth caterpillar infestation, especially where fowls are continually kept among the trees; secondly, some unfortunate worker may have grease-banded improperly, resulting in the death, perhaps, of several trees or serious injury to many. These are not good reasons why grease-banding is not an advantage.

If grease-banding is to be effective it should be done by the early part of October, as the males appear about that time, flying at dusk along the hedgerows, woods and orchards. The females crawl out of the ground a few days later and continue until nearly the end of the year. It is the latter that the grease-bands are put upon the trees to intercept. The f males crawl up the stems and lay their eggs about the buds and spurs, where they remain till March and eventually develop into caterpillars by the time the flower-buds are formed, which

they injure by eating into the centre of the clusters. If the caterpillars are left uninterrupted they fall to the ground in June, entering the soil, where they remain until a further stage takes place, and once more they emerge into male and female moths.

Standard trees are quite easy to band, but bushes with the branches close to the ground are difficult. To effectively and safely grease-band the trees, stout grease-proof paper, cut into strips 5 inches or 6 inches wide and long enough to encircle the stem, with a slight lap, is necessary; or one may make use of the corrugated "Multiplex" bands sold by Messrs. G. Bunyard and Co., Maidstone, tying them securely on the trees an inch or so from the top and bottom of the bands. Place on the paper a thick layer—say, 2 inches wide—of approved grease, as sold by Messrs. Strawson; or "Tanglefoot," which is a desirable preparation. Freshen up the grease during the winter months if it becomes hard and dry, as its stickiness is the point to aim at in trapping the pests. E. Molyneux.

Wages for Agricultural Workers

THE Corn Production Act, passed on August 21, which guarantees minimum prices of Wheat and Oats, also makes provision for fixing minimum rates of wages. All farm workers, and also workers in market gardens, nursery grounds, orchards, woods and osier beds, are included under the Act, which applies to boys, women and girls as well as men. For the purpose of settling, under the Act, the lowest rates of wages which may be paid to workers in agriculture, a Central Agricultural Wages Board is about to be formed, consisting of sixteen members representing employers, sixteen members representing workers, and seven impartial persons appointed by the Board of Agriculture and Fisheries. The Wages Board will be established by the Board of Agriculture and Fisheries, after consultation with the Minister of Labour. The Wages Board will have power to issue permits to enable workers who are infirm, or physically injured, to obtain employment at less than the minimum rates. Nothing in the Act prevents the payment of wages at rates higher than the minimum rates.

District Wages Committees will be set up throughout England and Wales, each comprising an equal number of representatives of employers and workers, respectively, and also one or more impartial persons appointed by the Board of Agriculture and Fisheries. These Committees will have to make recommendations to the Central Board as to the rates of wages applicable to their districts.

The representative members on the Central Board will be partly elected by organisations representing farmers and labourers, respectively, and partly nominated by the Board of Agriculture and Fisheries. The President will be glad to receive and consider suggested names of representatives of employers, submitted by farmers' organisations, or by groups of at least ten farmers; and of representatives of workers, submitted by labourers' organisations, or by groups of at least ten agricultural labourers. From among the persons so suggested nominated representative members of the Central Board and of the District Committees will be selected. All suggestions of names, together with the full postal addresses of the persons suggested, should be forwarded at an early date to the Secretary, Board of Agriculture and Fisheries, 80, Pall Mall, S.W.1. A memorandum giving details of the provisions of the Act relating to minimum rates of wages may be obtained post free on application at the address given above.

CLUBBING IN BRASSICAS

By CLARENCE PONTING.

This disease, known under the various names of anbury, club, finger-and-toe, or grub, will sooner or later visit all gardeners, so that a few notes on the subject may prove interesting reading, and perhaps provoke discussion which may prove helpful to readers.

What is Clubbing?—Happy beyond the dreams of mortal man is the gardener who can ask this question. I am sure that if anyone who has seen my garden asked me this question, a wild look would come into my eyes, I should look quietly round for the nearest object which could serve as a "club," and I should smite that intrepid individual "just one." He would not ask me that twice, I can warrant. Club! I have nothing but club! There are times when I could sit down and weep at the manner that this slimy little fungus manages to get the better of all my well-meaning efforts to conquer it. As a matter of fact, I do nothing of the kind, but continue to wage warfare until I shall eventually "give it best."

EXAMPLES OF CLUB ROOT ON BRUSSELS SPROUTS.

Sutton's excellent book, "The Culture of Vegetables and Flowers," gives a good description of this disease, which is as follows:

"The disease known by the above names is common in the roots of cultivated cruciferous plants, such as Cabbages, Kohl Rabi, Radishes, Swedes, Turnips, &c., and also in many cruciferous weeds, including Charlock and Shepherd's Purse. The cause of this disease is an extremely minute fungus, which may lie dormant in the soil for several years for want of a comfortable home, and when a cruciferous plant becomes available the fungus fastens on the fine roots, multiplies rapidly in the tissues, and produces malformation and decay. After the disease has made some progress, insect agency frequently augments the mischief, so that on cutting open a large decaying root it is not unusual to find the interior packed with millepedes, weevils, wireworms, and other ground vermin. Unlike the Potato disease, which spreads from plant to plant through the atmosphere, the fungus of finger-and-toe infects the ground, and from the first spot attacked the disease spreads rapidly in all directions and in various ways. It may be carried by the soil adhering to implements or the boots of labourers. And each patch becomes a new centre of infection, which is spread by digging and raking. Every scrap of infected soil, or of diseased fibre which may be added to the manure heap, distributes the virus over a wide area, so that finger-and-toe may suddenly appear in parts of the garden which have hitherto been free from this troublesome pest."

The Appearance of Plants When Attacked.—From this description it will be seen that club in the garden is not at all a desirable thing, for once it has made its appearance it is another thing to cause its exit. Those who are not acquainted with this disease will find no difficulty in discovering it, should any plants be attacked. Healthy plants may be put into the soil and grow away splendidly for a time. Then they seem to make no further progress. They stand still and, should a dry period intervene, become a prey to blue aphis. In hot sun the plants will droop, even after the soil has been saturated by rain. It is not necessary to pull up the plant in order to make sure of such attacks; but should there be any doubt about this, the root system will indisputably prove this. Pull up such a plant, and what is found? There are no roots worthy of the name. In place of these a knotted, stinking lump will be seen, the size varying from that of a Walnut to a good-sized Cocoanut. It all depends upon how long the plant has been allowed to grow after infection. Badly attacked plants will fall over in wet soil during periods of strong winds, owing to there being no roots to anchor the plant in the soil.

When are Plants Liable to Attack?—I have had such boundless opportunities of observing the work of this fungus in its attacks upon Brassicas that I can give the answer to this question without delay. Plants are liable to attack from the very first stages of the seed-bed; in fact, I am rather inclined to think that it is here they first receive the infection. It does not follow that all the plants in the seed-bed will be infected, although I had a case this season where every plant in the seed-bed was infected. This was rather an interesting case, for having observed that the attack usually took place in the seedling stage, I filled a cold frame with soil which I knew had never had any of the Brassica tribe grown upon it. This was mixed with stable manure and Beech leaf-mould. To make assurance doubly sure, this soil was treated to a heavy dressing of soil fumigant. The seedlings came up well and proceeded to make beautiful plants. Upon lifting them, however, club was found to be present upon every seedling. Well, as the Americans say, this fairly "had me beat." That there was something in that soil which caused the plants to be attacked I knew, and the cause of this trouble in my garden seems to be apparent. It is no doubt due to the use of leaf-mould. The decaying of the leaves probably was assisted by the spores of finger-and-toe disease. My conclusion regarding this as the cause of the disease is due to the fact that my garden has been manured for years with the leaves of the Beech trees, which blow down every year from a wood at the bottom of the garden. These are gathered into a heap each year and dug into the soil when in a half-rotted condition, the result being that my soil is very rich in leaf-mould, and will no longer carry a crop of the Cabbage tribe.

Supposed Remedies.—It will be noticed that I say "the Cabbage tribe." I mention this because all the other plants belonging to the Cruciferæ I can grow splendidly, even Turnips, Radishes and Kohl Rabi flourish, and never is the slightest sign of anbury evident. Probably a shower of letters will reach the Editor telling me to lime my soil. This, I know, is the supposed remedy, but having caused my soil to be limed at the rate of five tons to the acre without effect, this cannot be the remedy in my case. Others will tell me that my soil should receive a dressing of agricultural salt. Again, I have tried this. One year I so salted a piece of ground that not a weed grew upon it that season. However, Cabbages planted the next season produced the finest example of club that I have yet seen. Ashes scattered in the holes at the time of planting is another supposed remedy, which has been tried without effect. Another peculiar point regarding this disease which is supposed to infest the soil is this; that if plants which are badly attacked are staked and earthed up to a height of 6 inches to 9 inches, fresh roots will form on the stem above the part attacked; but, curiously enough, these roots are not infected as one would naturally assume would be the case, as the soil drawn to the plants should carry the disease to the new upper roots.

Conclusions Formed.—From the foregoing I am beginning to think that club disease only attacks plants during the summer months. My reason for forming this conclusion is because, as plants are not attacked after earthing up, which is done in the autumn, the spores are not active at this time. Another reason is due to an experiment which I tried this season. I raised some Brussels Sprout plants in heat early in January and planted them during February in soil known to be infected. These grew away steadily and never looked back. Probably they grew too quickly during the moist weather which one experiences at this time. I pulled up two or three plants last week (they are now 4 feet high) in order to observe the action at the roots. The root system was splendid, so much so that the plant was well fed, and, although club was in evidence, it was only in such a small proportion as to be negligible, and did not affect the growth sufficiently to cause that stunting from which they never recover.

A Next Season's Experiment.—From the fact that this disease is of fungoid origin, I intend to try the following experiment during various periods of the year. Knowing how useful Burgundy mixture is in combating the Potato disease, which is also of a fungoid character, I shall fill the holes with Burgundy mixture before planting. If any spores are there resting, this ought to effectually finish them. Whether it will also finish the plants is a point which I have yet to discover, although I do not think it will have any adverse effect upon the roots.

Perhaps some reader who has already tried this method will give others the benefit of his experience. It should make interesting reading.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Trenching.—The month of October is perhaps the slackest of all times in the kitchen garden, and opportunity should therefore be taken to trench all vacant plots, such as where Peas, Beans or Potatoes were growing, to prepare the ground for next season's sowing and planting of such crops as Onions, Carrots and Parsnips. I am a staunch believer in trenching the bulk of soils, especially those which are heavy and with a hard, pan-like subsoil. Well-trenched soil benefits more by this mechanical action than by the application of a heavy dressing of manure. The object of trenching is not only to encourage deep rooting, but to add warmth to the soil by the admission of air, and also to permit a free drainage of surplus water from heavy rains, which, when lying on the subsoil, causes root stagnation to all growth, which in turn creates and furthers the progress of diseases, such as canker in fruit trees, as well as a loss of growth in vegetables, especially in the Brassica tribe. In stiff soil, trenching should not be done during wet weather. No trenching should be less than 2 feet deep—3 feet would be better—and remember when land is broken up to this depth it is done for ever. At no future period is it necessary to again trench so deeply.

Collecting Such Refuse as leaves, decayed vegetable matter, wood-ashes, charcoal and disused potting soil is time well spent. Such materials supply much plant food and are found extremely useful when sowing and planting various crops in the spring. Store all such matter in neat heaps, keeping them as dry as possible. Freshly gathered leaves are valuable to mix with the soil when trenching is going on, as they not only enrich the soil, but aid in the porosity where the soil is heavy in character.

Broad Beans.—Now is a good time to sow seed of Longpod or Windsor Beans, as if the plants pass through the winter safely they will give an earlier and a heavier crop than those spring sown. Select a dry site in trenched soil quite in the open. Sow the seeds in dry weather in double rows 8 inches apart, with a space of 6 inches in the rows. Allow a yard between the rows. If the soil is heavy, sow the seeds in a little prepared compost to hasten germination, and keep them free from slug attacks.

The Flower Garden.

Planting Roses.—Plants carefully put in this month become established by making fresh roots while the soil is still warm, and are in a much stronger condition when growth starts in March than plants put in in December. It is a good plan to remove all the leaves when receiving the plants, and to shorten the long shoots. The former do not then draw upon the energy of the weakened plant, and the removal of tall shoots aids in keeping the plants free from winds, which tend to loosen them in the soil. Deeply trench and heavily manure the soil before planting; this is best done during dry weather, especially where the soil is heavy.

Plants Under Glass.

Violets in Frames.—No time should be lost in getting the plants of double Violets into the frames where they are to flower, so that they may become established before frost sets in. A base of freshly gathered leaves on long manure 1 foot thick to ensure good drainage should be supplied, and on this a compost of light, friable soil at least 1 foot thick, in which is a goodly proportion of decayed leaves and road grit to render the whole porous, should be placed. Lift the plants with a ball of earth attached to the roots. Allow space so that overcrowding cannot take place; if this occurs, the leaves are liable to rot. Give a good soaking of water to settle the soil about the roots. Leave the lights off until the nights grow colder or much rain falls. Afterwards give air freely on all favourable occasions.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsley.—Those who transplant this herb and grow the plants singly have no difficulty in transferring as many as will carry the supply safely through winter and spring. The inexperienced, when lifting, invariably endeavour to raise more soil than is needed with the plant, often to its damage. The proper quantity is just as much as the roots attach to themselves, and this is quickly discovered by experience. The less handling given the plants the better, and once planted, the soil packed firmly around the ball and freely moistened with water, little more is required for weeks. The general requirements are coolness without frost, and water at the roots given at only rare intervals.

Cauliflowers.—Seeds may be sown in a prepared bed in a cold frame to come in for planting out late in March or early in April, a light covering of sand being levelled over the soil to keep down weeds and mitigate the evils of damp. Early Erfurt is a reliable sort when true, and from the one sowing provides a lengthened supply of material. If a pit is to be had, then better, or, rather, earlier plants may be secured by potting some in January and, once well rooted, planting out in a cool house. By similar means very strong plants can be had to plant out in March, and the remainder may be left to produce heads without transplanting, either the strongest or the weakest, according to circumstances.

Carrots.—Long-rooted sorts need be left in the ground no longer. They may be stored in pits similarly to Potatoes if space under cover be limited; or if there is room in a shed or other outhouse, be buried between layers of sand. It hinders new growth when a slight portion of the root is cut off with the foliage when trimming the roots previous to storing.

The Rose Garden.

Ramblers.—These may now be pruned and the present year's shoots tied to the trellis or nailed to walls. Common Roses may also be pruned and done up for the year, which makes a saving of labour in spring. If any kinds are to be increased by means of cuttings, the present time is also suitable for that work. Stout, well-ripened shoots are best, or those about 1 foot in length, of which 9 inches should be buried. There are more ways than one by which the shoots can be planted, but where large numbers are treated they should be laid in trenches in lines, the soil, when put back, being pressed firmly in. There is little fear of frost loosening them if properly managed. Six inches apart is quite enough space to allow each, with 15 inches between the rows, giving ramblers double these measurements.

The Flower Garden.

Dahlias.—As soon as these are over for the year, lift the roots, first cutting the plants over quite 1 foot above ground. If lifted carefully, so as to preserve a quota of soil about the claws of the tubers, they will keep in perfect condition without doing anything else than seeing that neither frost nor wet reaches them. I grow many hundreds and never lose any by this simple method.

Tuberous Begonias are also ready to store, but the tubers in this instance are all the better if laid out to dry on the border of a vinery, after which, also keeping a portion of soil on each, they should be stored in boxes or barrels in a dry, cool room.

Lobelia cardinalis and similar kinds keep best in a cold frame. My system is to arrange the

plants close together in cutting boxes as they are lifted, and after placing in the frame they are covered several inches in depth with leaf-soil and left till early spring, when they are transferred to a structure warm enough to start them into new growth for breaking up. If one could be certain of only slight frosts, the roots would be best left in the ground and covered there with some protecting material. Next to that, the best thing to do is to see they are kept as cool and dry as possible.

Chrysanthemums.—Many of the early flowering section come safely through the winter in light soil with merely a covering of cinders placed over the plants; but to be certain of preserving them it is better to lift and plant in a cold frame, also covering deeply as a further protection. There is a further value of cold frame treatment, in that cuttings are produced much earlier for the next year's stock. Some varieties already have shoots coming from the roots. These may be taken off and dibbled into soil in a frame, where they will root in due time and prove strong material for next season.

R. P. Brotherston.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

COMMENTS ON "THE GARDEN"

ABOUT APPLES AND OTHER THINGS.

APPLE JAMES GRIEVE I have grown for about twelve years, and I consider it one of the best for beautiful blossom and fruit and regular and abundant crops. I think it resembles Cox's Orange Pippin in flavour a little, but doubtless this varies in different soils and situations. (Personally, I prefer it to Cox's Orange Pippin, which I think an awfully overrated Apple—a matter of taste, and "tastes differ"!)

Newton Wonder was a complete failure in my garden, but many praise it. I concur with Mr. Bunyard's remarks about the storing of Apples in all sorts of places, which my "amateur" experience has often proved true, but am amazed to hear the same from an expert. The queerest example I call to mind is that of an early "non-keeping" French Codlin, a tall old tree beneath whose branches there was a pergola thickly roofed with climbers. This caught some of the ripe Apples one autumn as they fell, and they remained there till Christmas, when I found them, quite sound and of unimpaired flavour.

Pear Louise Bonne of Jersey.—If obliged to content myself with *one* Pear tree, I would choose this for beauty of blossom and fruit, flavour, and constant and profuse crops; but of good Pears there is an *embarras des richesses* and *no* excuse for growing "greengrocers' shop-window" and "hotel dessert" ones (of which I count Conference an example).

I *must* buy, beg or steal some of those Dutch Beans to sow next season. I have had some ripe Dwarf Beans this autumn. They were excellent, and looked very like chocolate creams when cooked. I found them better than ordinary white Haricots.

I am glad to read a word of praise given to my dear old Mme. Crousse. I remember her in her youth (and mine). Though not disdaining newer ones, I think it still remains the most beautiful of all Ivy-leaved Geraniums. It is not a "quarrelsome" pink, as so many are, but combines happily with many crimsons, lavenders and mauves.

The picture of Miss Philbrick's ornamental vegetable bed is very convincing, and ought to allure others to copy or rival it. For several years I had to study the effects obtainable in a small garden where flowers, fruit and vegetables grew "cheek by jowl"—pink Hollyhocks with a background of grey-green Cabbages; pale yellow Evening Primroses in front of Beetroot; Carrots behind Poppies and Cornflowers, or a few of these growing amid the ferny feathery foliage, and so on.

My experience this year coincides in two respects with those of our revered friend. My "Polly Prims" were terribly "cut up," and as for slugs (censored by Editor) I have never had worse losses due to "the little beasts," as, with fine disregard of Natural History, he calls them. (*I* say "reptile" when *very* angry, being a daughter of Eve.) *A propos* of Eve, can anyone tell me where I can get a Mussel Plum tree? "I have sought, but I seek it vainly" in all the fruit catalogues. There was a tree which stood in the midst of the garden (at Surbiton) and its fruit was forbidden, and—er—well—I was *not* "a good little girl who died young," and "stolen fruit *was* sweet."

Anne Amateur.

No More "Beastly Days"

THE strenuous days of "summer time" have come to an end, and those whom the shackles of business keep out of their gardens until the fall of twilight grey must now rest content within the peaceful precincts of their "ain fireside."

> "And when the darkness muffles up the skies
> Still to be happy is her sole desire,
> She sings sweet songs about a great emprise,
> And sees a garden blowing in the fire."

So many homes have been plunged into the valley of the shadow, so many brave soldier-gardeners have gone to "the island-valley of Avilion," that to some these pleasant lines, culled from a poem called "The Gardener" in a soldier's "Songs of Peace," may appear inapt. But sorrows and blessings oft come together, and so, though we gardeners at home may forget that 1917 was ushered in with Potato queues, we shall, surely, remember for the rest of our lives the miracle of its bounteous crops. My only wish is that the Huns could be forced to send a horticultural deputation over here, and that Frau Karl Druschki and Oberhofgärtner Terks could make their appearance in the flesh! How I should glory in showing them my well-filled trays of Midlothian Early, Windsor Castle and Arran Chief, and my neighbour Mr. Hadley's multitudinous nets of Vegetable Marrows! And then what a joy it would be to pack them right across country (goodness knows where!) to see (or hear) "Anne Amateur's" groaning shelves laden with bottled Pears, sweet chutney and other delicious confections! I hesitate to speculate on what *she* would have to say to them, or whether they would be allowed to depart back to the Vaterland scot-free; but if they *did* get there, surely the "starving English" fiction would receive its final *quietus*. And so we must be thankful to the Creator for the blessings vouchsafed to us in 1917, and forget all about the "daggledy" (as we say in Worcestershire) days of August and September, which made the Plums crack and the corn harvest so difficult to ingather.

The other day some business took me to the large carpet works of Messrs. Brintons, Limited, in my native town, and there, in the caretaker's office, was a conspicuous notice board which read as follows:

"NO MORE 'BEASTLY DAYS.'

"For as the rain cometh down, and the snow from heaven, and returneth not thither, but watereth the earth; and maketh it bring forth and bud, that it may give seed to the sower, and bread to the eater.—Isaiah LV., 10."

It was pouring with rain at the time, and the signs were all propitious for a soaking wet day, but, though sorely tempted, I was on my guard, and only remarked that I hoped it would soon clear; and when the sun *did* shine an hour or two later it reminded me of dear old Alphonse Karr's experiences on board the boat which conveyed him by the Saône from Chalons to sunny Lyons. It came on to rain, and one poor woman who could not afford a cabin to herself was left on the deck while everyone else went below; but let me tell the last part of the tale of "The Poor Travellers" in his own words. He says: "J'adressai du meilleur de mon cœur une prière à Dieu pour que la pluie cessât. Quelques instants après, un rayon de soleil dissipa les nuages; je crus que j'avais été entendu et exancé, je remerciai Dieu comme je l'avais prié."

A somewhat similar episode to this has persuaded me to adopt the old caretaker's motto and to beg for recruits in The Garden. It was a drenching August night when, in company with a companion, I was on "special" duty, and both of us were having a most uncomfortable time. I was wishing that "policemen" were allowed to carry umbrellas, and this train of thought led me to remember that Bellamy, in a book on Socialism, writes with prophetic rapture that in *his* Utopia there will be no need of umbrellas, since there will be porticoes over all the sidewalks in every town! My companion's thoughts were unknown to me, but presently he expressed an earnest wish that the rain would cease. Amid the hurrying storm clouds a nearly full moon was shining from the South, when suddenly an influence that seemed almost mystic caused my companion to turn towards the North, and there we saw revealed in all its splendour a shimmering arch of palest iridescent silver. Thus, while the rest of the world were thankful to be in the shelter of their homes, this exquisite lunar rainbow was set in the heavens as if to remind us that instead of complaining about the weather, we ought at all times to bear in mind that the philosophy of rain is as singular as it is simple, and that such an admirable arrangement for watering the earth could only have been devised by Omniscience.

> "For faithful to its sacred page,
> Heaven still rebuilds thy span;
> Nor lets the type grow pale with age
> That first spoke peace to man."

Apart from the weather there are other "beastly days" that will have to be countered in this fourth winter of war, for we are threatened with a shortage of comestibles that in normal times would be deemed essential. Meat seems likely to be scarce after Christmas. For this reason I would strongly advise everyone to keep an extra reserve of Potatoes. They may be the first food that a doctor condemns, but it should be remembered that they are far more digestible to most people when cooked with either milk or butter or eggs than when they are sent to table plain boiled or baked; while they are rendered very indigestible when fried or "chipped." In Herman Senn's "Meals Without Meat" there are some capital suggestions for cooking Potatoes, one of which is of such particular excellence that I have copied it out for readers of The Garden:

"Dutch Potato Mould.

"Wash, peel thinly, and cut into slices about 1½lb. of potatoes; peel and slice thinly 2 to 3 onions; grate 4oz. cheese. Spread the inside of a plain mould thickly with butter, and sprinkle with breadcrumbs. Fill the mould with layers of potatoes, grated cheese, onion and breadcrumbs. Melt 1oz. of butter in ½ a pint of hot milk, season it with salt and pepper and a grate of nutmeg, and pour this into the mould. Bake it in a moderately heated oven for about 1½ hours. Turn out the shape on to a hot dish, and serve at once."

With this recipe at one's elbow, instead of being a "beastly day," it will be a *festus dies* when the maid comes in at breakfast to say "Please, Mum, the butcher's got no meat." Potato and Onion soup, in the same book, is of equal excellence, but my crop of Onions proved such a failure this year that dishes requiring many will have to be deleted.

And while on the subject of Potatoes, can any reader give me a simple and inexpensive recipe for a Potato pudding? Fifty years ago it was considered a *pièce de résistance*, but to-day the recipe, which has recently been sent me from Somerset, is too extravagant for the times. It is as follows:

"Take ½lb. of floury potatoes and boil them, then rub them through a fine colander or pound them in a mortar; add ¼lb. of butter, 6oz. of fine sugar, 4 eggs (yolks), a little nutmeg and lemon peel. Put the white of eggs the last thing, beat up to a froth just before the pudding is baked. Bake in a moderately heated oven for three quarters of an hour."

But *revenons à nos moutons*. There was a fine sequel to a "beastly day" in a village not very far from here. The supply of malt liquor at The Gate Hangs Well gave out in the midst of the busy harvest season, and a limited supply of cider and perry was in consequence similarly threatened. But the landlady was a woman of natural resourcefulness (I hope I shall not betray her whereabouts to the Excise officers!), so to her store cupboard she went and brought out a large jar of treacle. This she well mixed with water in the proportion of 1lb. of treacle to 11 gallons of water, and boiled it in a furnace for two hours with 6oz. of Hops. When quite cold she added a teacupful of yeast and stirred it well. It was allowed to ferment for sixteen hours in a tub covered with a sack. Then it was put into a 9-gallon cask and kept well filled up with water for two days. At the end of that time it was corked down, and seven days afterwards, when there was still no beer, this "home-brewed" was placed before the customers and pronounced excellent on all sides.

With such a glut of Pears most of us are faced with another variation of a "beastly day" because they are all ripening together, and no one likes to see them going to waste. My constitution will not allow me to sit up all night to eat them, and to bottle them unsweetened is only postponing the evil day. So we put on our "thinking caps" to see if we could devise a plan to bottle *in syrup* all the "Louise Bonne" we could, using only a minimum of sugar; and as the recipe for making this syrup appears to be a success, I hand it on to readers with the distinct understanding that they mark it *probatum est* in their cookery books. The ingredients are 3lb. of sugar, six tablespoonfuls of corn syrup, six tablespoonfuls of honey, six pints of water, and the juice of two Lemons. Mix all together in a preserving kettle and bring to the boil, stirring with a wooden spoon until thoroughly dissolved. Add a quarter of a pound of crystallised Ginger cubes (this is a confessed extravagance, but it is a marvellous improvement to the syrup and does not injure the flavour of the Pears) and let it boil in the syrup for about ten minutes. Then remove from the fire and allow the syrup to cool down a little; then with a teacup pour it into "Kilner" jars which have been previously filled with the Pears, cut into halves and cored. The cubes of Ginger which are left at the bottom of the preserving kettle should be placed on the top of the Pears, about two cubes to each bottle. After this the bottles are stoppered up ready for the usual method of bottling. By this means we filled seven 4lb. jars with syrup up to the bottom of the neck of each bottle, and had a nice drop of this most delicious syrup left over in which to stew some Pears for immediate use. The Pears should be bottled before they are quite ripe.

Reader mine, if I have only written about matters trivial, it is not because I am blind to the overwhelming days of affliction through which all are now passing. Rather have I tried to emulate the spirit of our esteemed helmsman who, in the midst of personal sorrow and anguish, has kept the pages of THE GARDEN full of helpfulness and good cheer.

Let us hope that the paper famine, which has stricken the newspapers of Hunland, will not seriously trouble him, for it would be a superlatively "beastly day" on which we could not say in the true Cowperian spirit:

"Now stir the fire, and close the shutters fast,
Let fall the curtains, wheel the sofa round,
That we may read THE GARDEN to our heart's content."

Kidderminster. ARTHUR R. GOODWIN.

Notes on Breaking Up Grass Land

FROM the pamphlet issued by the Board of Agriculture and Fisheries, to which we have already referred (see issue October 6, page 419), it is quite clear that the Board does not admit that the ploughing up of grass land is likely, even in the first year, to result in a reduction of the net food supply, much as this opinion has been urged of late by persons who are unwilling to plough up grass. Few farmers have attempted to argue that grass will yield more food than arable land, so widespread is the knowledge among agriculturists of the superior productivity of land under the plough; but many men who agree with the general proposition of tillage being in the interests of the country have yet been led to believe that the first crop after ploughing is too precarious to be likely to result in any substantial increase in food production. The results of this year's cropping of newly ploughed grass are, however, sufficient to show that there is no risk of a decrease in the production of food next year in any district, not to speak of the country as a whole, through the conversion of grass land into tillage.

Three considerations may be advanced to justify this assertion:

(1) Taking the country as a whole, it will be necessary to plough only one acre out of eight now in grass, and though the proportion rises much above the average in some counties, it may be assumed that as the land for breaking up is being carefully selected by competent local agriculturists, the ploughing of the right kind of grass land is assured.

(2) There is a wide margin in favour of land under corn. The produce of 100 acres under an average Wheat crop would supply subsistence for 200 persons for a year. One hundred acres of Oats would similarly provide for 160, and 100 acres of Potatoes for 450; while the produce of 100 acres of the grass which would usually be broken up for tillage would only provide for from twenty to thirty persons if converted into meat or milk.

(3) The third consideration is that already a very considerable amount of experience in the breaking up of grass land has been obtained, and the results secured by those who ploughed grass land for the harvest of 1917 are very encouraging. Enquiries on this subject have recently been addressed to farmers, and over 300 replies from all parts of the country have been received. A Report giving a summary of many of these replies has been prepared, and will be sent on application to anyone interested in the breaking up of grass land. [The Report (Miscellaneous Publications, No. 19) may be obtained free from the offices of the Board, 3, St. James's Square, S.W. 1. Letters of application need not be stamped.] A few points from the Report are referred to below.

Time to Plough.—By far the greater number of reports relate to land ploughed after January 1, but there is evidence of successful ploughing at all seasons. Clay soils in the South and East are best broken up in summer; medium and light soils, where the turf was not very thick, have generally given the best crops when ploughed in February, March and early April. Success has been secured in some cases where the land was not broken up for spring corn until the beginning of May.

Cultivation.—The usual secret of success has been thorough consolidation of the soil by pressing, or rolling with the Cambridge roller.

For the purpose of securing a solid seed-bed the following attachments, or implements, have been most useful:

Disc coulters and *skim coulters* on the plough; the use of these attachments enables the turf to be buried. On deep soil the best results have been secured by letting two ploughs follow each other in the same furrow, the first turning a furrow of 2 inches to 4 inches, the second a furrow of 6 inches to 8 inches, thus burying the turf. An inverted (flat) furrow has usually proved to be most satisfactory, especially in late ploughing, for with this type of furrow there is less risk of leaving the soil "hollow." After ploughing, the land-presser, the wheel of a loaded cart, or the Cambridge roller should follow to press the land. The harrow should follow along the furrow and should not cross until the turf has rotted, otherwise the furrows may be pulled back.

The disc harrow is most useful in securing a covering for the seed and in reducing rough ploughing to a suitable seed-bed. Where seed is drilled, the disc drill should be preferred to the common drill. With this implement a good covering for the seed may be secured in hard soils. After sowing, the roller should be used freely (loaded if the soil is dry). The harrow may also be used freely in most cases, but it is not, as a rule, desirable to work down new land into a very tilthy seed-bed for Oats. There is some danger of disturbing the buried turf and so loosening the soil.

Causes of Failure.—The chief cause of failure in 1917 was a loose, open soil. Where thorough rolling had not been resorted to, the surface quickly dried up during May. A certain number of wireworms exist in most old grass land; frequently they are numerous, and in a soil which is not sufficiently rolled they do great injury and may even completely destroy the crop. The loose soil contributes to the destruction in two ways. Wireworms move about readily in open soils and attack many more plants than they do in land which has been thoroughly rolled. Further, in a compact soil a plant is able to re-establish itself if the roots are partly cut by wireworms, whereas in an open, dry soil the injured plant, even if it does not die off, produces little or no grain.

The wireworm attacks nearly all crops, but does much less damage to Beans and Peas than to white straw crops.

The frit fly, common from Yorkshire southwards, is another frequent cause of failure in Oats; in some districts it does more damage than the wireworm. Early sown, and in some cases late-sown, crops are much less subject to attack than those sown between the middle of March and the middle of April, and Tartarian Oats are said to suffer less than ordinary Oats.

Manures.—Cereal crops grown after grass of fairly good quality should not need manure, but where the land is poor and the grass does not rot readily, sulphate of ammonia at the rate of ¾cwt. to 1cwt. per acre applied when sowing in spring will help the Oat crop to withstand drought and insect attacks. Poor clay soils intended for Wheat should get 2cwt. to 3cwt. of basic slag before sowing in autumn, and may also require sulphate of ammonia.

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

INJURY TO ROSE FOLIAGE (*C.*).—The Roses are not attacked by black spot, and the creosote may be the cause of the somewhat unhealthy appearance of the leaves. At the same time, red spider and thrips (although none are now present) produce similar discolorations in the foliage, and may have been the culprits.

FRUIT GARDEN.

BLACK ROT IN PEARS (*W. A.*).—Instead of using potassium sulphide, use Bordeaux mixture for the rot in the Pears, spraying the trees immediately after the petals fall in spring.

SEEDLING APPLE (*Mrs. H. D.*).—The fruit sent closely resembles King of the Pippins. We note that it is a seedling from Cox's Orange Pippin. The flavour is good, and we regard it as a very promising Apple.

KITCHEN GARDEN.

POTATO FOR INSPECTION (*E. M. H.*).—The Potato tuber is, we regret to say, attacked by the common Potato disease, due to Phytophthora infestans. Some varieties are more susceptible than others to this disease, and possibly the spraying was delayed until the disease had obtained a foothold.

LEAF-SPOT IN CELERY (*T. H. S.*).—Your Celery is badly attacked by the Celery leaf-spot disease, due to the fungus Septoria Petroselini var. Apii. It is, we fear, too late to do much to check it, but all diseased pieces should be carefully picked off and burned and the remainder of the plant sprayed with Bordeaux or Burgundy mixture. The disease is undoubtedly carried from place to place in the seed, and is now very widely spread over the country. Take care that the whole of the refuse from the plants is burned, and next year secure clean seed and spray the plants at intervals from May onwards with one of the mixtures already referred to.

FLOWER GARDEN.

PÆONY DISEASED (*Mrs. H.*).—The only thing that can now be done is to cut down and burn all the infected stems and leaves, though this may avail but little so far as a recurrence of the trouble next year is concerned. Another year, in May or thereabouts, the foliage should be sprayed with flowers of sulphur and soft soap, a breakfastcupful of the former, first reduced to the consistency of mustard, to 3oz. of soft soap. Dissolve the latter in hot water and stir well. The above quantities would be sufficient for about 2½ gallons. Use rain-water for preference. Take care to wet the under surfaces as well as the upper surfaces of the leaves. Spray once or twice both before and after flowering.

MISCELLANEOUS.

NAMES OF PLANTS.—*E. N. C.*—1, Begonia Rex; 2, Santolina Chamæcyparissus (Cotton Lavender), *not* an Artemisia; 3, Cotoneaster Simonsii; 4, Aster William Bowman; 5, Aster (the nearest we can find is Moonstone, which is rather larger flowered); 6, Aster (probably same as No. 5 or a seedling therefrom); 7, not sent.——*Bryn Deriom.*—Nicandra physaloides.——*F. M.*—Erigeron mucronatus.——*E. M. D.*—Acer Negundo (Box Elder).——*N. F.*—Calceolaria mexicana, a native of Mexico.——*Rose.*—Evidently a Lilac, but cannot identify without flowers.——*M. A.*—Aster amethystinus.

NAMES OF FRUIT.—*F. M. L.*—1, Mabbott's Pearmain; 2, Duchess of Gloucester; 3 and 5, Cox's Pomona; 4, Grenadier; 6, Norfolk Beefing.——*M. S. W.*—1 and 12, Cox's Orange Pippin; 2, Worcester Pearmain; 3, Royal Jubilee; 4, Mother; 5, King of Tompkin's County; 6, Winter Queening; 8, Devonshire Queen; 9, Lady Sudeley; 10, Ribston Pippin; 11, Kerry Pippin; 13, Cellini; 14, Golden Spire; 16, Warwickshire Pippin; 17, Yorkshire Greening. Nos. 7 and 15 we are uncertain of. The Pear was decayed. We cannot undertake to return boxes.——*B. S., Southport.*—1, Grenadier; 2, Gold Medal; 3, Wellington; 4, cannot tell from half a fruit; 5, Wealthy; 8, Grange's Pearmain; 9, Golden Noble; 10, Warner's King; 12, Lord Derby; 13, Ecklinville; 13, red, Cellini; 14, Golden Noble. Those omitted we are not quite certain of.——*W. S.*—1, Lemon Pippin; 2, Waltham Abbey.——*Miss V. D. E.*—A, Hawthornden; B, Bramley's Seedling; C, Histon Favourite; D, Schoolmaster; E, Dutch Mignonne; F, High Canons.——*Wooda.*—1, 7, 16 and 17, King of the Pippins; 2, 9 and 10, Cox's Pomona; 3, Sturmer Pippin; 4 and 14, Waltham Abbey; 5, Golden Spire; 6, 18, 20 and 23, too poor to recognise; 8, Duke of Devonshire; 11, Wellington; 12, Beauty of Bath; 13, Kerry Pippin; 15, Annie Elizabeth; 19, Royal Russet; 21, possibly Rambour Papalen; 22, Grenadier.——*Boris.*—Pear Vicar of Winkfield.

National Sweet Pea Society.—The annual general meeting of the National Sweet Pea Society was held at the offices of the British Wholesale Florists' Federation, 35, Wellington Street, Covent Garden, on Tuesday, October 9, under the presidency of Mr. E. W. King, the President. There was a very small attendance. The report of the committee for 1917 was presented by Mr. J. S. Brunton; it showed that though war-time had curtailed the enterprise of the society by preventing the holding of the Manchester Show and the conduct of trials, good work had been done, the Annual having been published and a small show held at Westminster. The financial statement showed a turnover of £276 0s. 4d., and as a result of the generosity of some friends, a balance of £3 14s. 5d. was shown on the right side. The officers and committee were thanked for past services and the standing orders were suspended to allow their re-election, with the addition of Mr. C. H. Curtis to fill a vacancy arising, by resignation, on the committee. No trials will be held in 1918, but an effort is being made to arrange for an exhibition at Westminster in conjunction with the Royal Horticultural Society's meeting in July next. A vote of thanks to the President concluded the proceedings.

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SELECTION "A."
24 best and most popular roses for general purposes.
A splendid assortment. 15/6 Carriage paid.
Caroline Testout (ht),sal.pk. 9d.
Earl of Warwick (ht),sal.rose 10d.
Ecarlate (ht), scarlet - - 10d.
Ethel Malcolm (ht),ivory w. 10d.
Frau Karl Druschki (hp),w. 10d.
George Dickson (ht),deep cr. 10d.
G. C. Waud (ht),orange ver. 10d.
Gen. McArthur (ht), scarlet 10d.
Gus Grunerwald (ht),carm. 10d.
La France (ht), rose - - - 9d.
La Tosca (ht), salmon flesh 10d.
Lady Pirrie (ht). apricot - 10d.
Lady Ashtown (ht),deep pk. 9d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. C. Lutaud (ht),yel.rose 1/-
Mme. Ed. Herriot, prawn red 10d.
Mme. Jules Grolez (ht),sil.rose 9d.
Mme. Melanie Soupert (ht),y. 10d.
Mme. Ravary (ht),orange yel. 9d.
Mme. Segond Weber (ht),sal. 10d.
Ophelia (ht), flesh pink - 10d.
Pharisaer (ht), rosy white - 10d.
Rayon d'Or (ab), yellow - 1/-
Richmond (ht), scarlet - - 10d.

Fragrant Roses
SELECTION "D."
12 chosen chiefly for their abundant delicious scent.
Colouring gorgeous. 7/9 Carriage paid.
Alfred Colomb (hp), red - 8d.
Dupuy Jamain (hp), cerise 8d.
Earl of Gosford (ht),crimson 10d.
George Dickson (ht),vel.cri. 10d.
General Jacqueminot (hp),cr. 8d.
Gen. McArthur (ht),crimson 10d.
Juliet (hb),old gold and red 10d.
La France (ht), rose - - 9d.
Lady Alice Stanley (ht),pink 10d.
Mme. Ed. Herriot (per),red 10d.
Mrs. John Laing (hp),rosy pk. 8d.
Ulrich Brunner (hp),cher.red 8d.

Buttonhole Roses
SELECTION "F."
12 charmingly coloured and daintily formed in bud.
Last well when cut. 8/6 Carriage paid.
Harry Kirk (t), yellow - 10d.
Lady Hillingdon (t),apri.yel 10d.
Lady Roberts (t),reddish apri. 10d.
Liberty (t), velvety crimson 9d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Jean Dupuy (ht),rose 10d.
Melody (ht), saffron yellow 1/-
Mrs. A. Ward (ht), yellow 10d.
Mrs. G. Shawyer (ht), pink 10d.
Mrs. H. Stevens (t), white 10d.
Richmond (ht), scarlet - 10d.
Sunburst (ht),cadmium yel. 10d.

HARDY FRUIT
"Falstaff" Selection.
Best Sorts. 18/6 Strong trees. Carriage paid.
1 Bramley's Apple, cooker.
1 Lord Suffield Apple, cooker.
1 James Grieve Apple, dessert
1 Cox's Orange Pippin, dessert.
1 Louise Bonne Pear, cook or eat.
1 The Czar Plum, cook or eat.
1 Victoria Plum, cook or eat.
1 Morello Cherry, cooker.
1 Loganberry, for tarts or jam.
4 Boskoop Giant Black Currant.
4 Whinham's Gooseberry.
12 Superlative Raspberry, best.
All are very free-bearing, hardy, thrifty sorts.

All Purposes Roses
SELECTION "K."
12 first-class sorts, suitable for general use.
Do well everywhere. 6/6 Carriage paid.
Betty (ht), coppery rose - 10d.
Caroline Testout (ht),sal.pink 9d.
Fisher Holmes (hp),cri.scar. 8d.
F. K. Druschki (hp), white 10d.
H. E. Richardson (ht),crim. 10d.
Hugh Dickson (hp),crimson 8d.
Lady Ashtown (hp),deep pk. 9d.
Lyons Rose (ht),shrimp pk. 10d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Ed. Herriot, red - 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. J. Laing (hp),rose pink 8d.

Gold Medal Roses
SELECTION "L."
12 newer sorts, all gold medallists but two.
Creme de la creme. 9/- Carriage paid.
British Queen (ht),snowyw. 10d.
Dchs. of Wellington, yellow 1/-
George Dickson (ht),deeper. 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),coppery-sal. 10d.
Leslie Holland (ht),vermilion 10d.
Mabel Drew (ht), cream - 10d.
Mme. E. Herriot (per.)pr.red 10d.
M. de Sinety (ht),gold bronze 1/-
Mrs. A. Carnegie (ht),white 10d.
Rayon d'Or (per.), golden - 1/-
Willowmere (per.),coral pk. 10d.

Climbers, Ramblers
SELECTION "S."
6 roses suitable for trellis, pillars, arches, pergolas, &c.
All very vigorous. 4/9 Carriage paid.
Alberic Barbier (W.),yellow 11d.
American Pillar (cl.,P.),pink 11d.
Blush Rambler (cl.,P.),blush 11d.
Dorothy Perkins (W.), pink 11d.
Excelsa (W), bril. scarlet - 11d.
Hiawatha (cl.,P.), crim.wh. 11d.

BEDDING PLANTS
(Ex. strong transplanted bushy.) Doz. 100
Wallflowers, red - 10d. 5/-
" " yellow 10d. 5/-
Forget-me-not, blue 1/- 6/-
Canterbury Bells in sep. colours, white, rose, blue or mixed 1/6 9/6
Iceland Poppies, mxd. 2/6 15/-
Polyanthus, mxd. - 2/6 15/-
Sweet Williams:
Pink Beauty Hybrids 1/3 8/-
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Hardy Auriculas - 3/- 20/-
Purple Aubrietia, pots 4/- 30/-
Silvery Rockfoils - 4/- 30/-
Graecian Violet - 4/- 30/-

HARDY FLOWERS
Continuous display. 6/- Carriage paid.

Alkanet, blue	Lupin, yellow.
M'mas Daisy, lil	Iris, rich blue.
Marguerite, white	Pyrethrum, 1½ft.
Larkspur, violet.	Fleabane, mauve
M'mas Daisy, ma.	Hybrid, C'mbine.
Dragon's-head, car.	Pink Knotweed
Larkspur, blue	Avens, scarlet
M'mas Daisy, pk.	Catmint, lavender
Red Elecampane.	Blue Bellflower
Scarlet Campion.	Blue Flax.
Blue Lupin.	Golden Marguerite
White Bellflower.	Mimulus, scarlet
Poppy, Pink.	Jacob's ladder
White Lupin	Speedwell, blue.
Gypsophila.	Double Pyrethrum

Exhibition Roses
SELECTION "B."
24 specially-selected varieties.
Assured prize winners. 15/6 Carriage paid.
Avoca (ht). crimson scarlet 10d.
Bessie Brown (ht),creamyw. 10d.
British Queen (ht), white - 10d.
Chas. Lefebvre (hp),crimson 8d.
Coronation (hp), flesh pink 10d.
Dean Hole (ht), silvery rose 10d.
Earl of Gosford (ht),dk.crim. 10d.
Ethel Malcolm (ht),ivory w. 10d.
Gl. de C. Guinoisseau (hp),ver. 8d.
George Dickson (ht),vel.crim. 10d.
Hugh Dickson (hp), crimson 8d.
J. B. Clarke (ht), crimson - 10d.
Jonkheer J.L. Mock (ht),car. 10d.
Leslie Holland (ht),scar.cri. 10d.
Mabel Drew (ht),canary yel. 10d.
Lyons Rose (ht),shrimp pink 10d.
Mrs. C. West (ht), shell pink 10d.
Mildred Grant (ht),tinted w. 10d.
Mrs. Amy Hammond (ht),ap. 10d.
Mrs. Andrew Carnegie (ht),w. 10d.
Mrs. John Laing (hp), rosypk. 8d.
Mrs. J. H. Welch (ht), pink 10d.
Mrs. Roosevelt (ht),pale flesh 10d.
Ulrich Brunner (hp),cher.red 8d.

Town Roses
SELECTION "E."
12 sorts proved suitable for growing in smoke.
Immensely successful. 7/9 Carriage paid.
Caroline Testout (ht),sal.pink 9d.
Dr. O'Donel Browne (ht),car. 10d.
F. K. Druschki (hp), white 10d.
George Dickson (ht), crim. 10d.
Gustave Grunerwald (ht),car. 10d.
J. B. Clark (ht),deep scarlet 10d.
La Tosca (ht),silvery pink - 10d.
Mme. Ed. Herriot (per),red 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. John Laing (hp),rose pk. 8d.
Mme. Isaac Pereire (b), car. 8d.
Ulrich Brunner (hp),cher.red 8d.

Dwarf Bedding Roses
SELECTION "I."
12 perpetual, free-flowering sorts, of bushy habit.
Surprisingly effective. 8/6 Carriage paid.
A. R. Goodwin (per.),sal.pink 10d.
Betty (ht), coppery rose - 10d.
Dchs. of Wellington, saffron 1/-
Ecarlate (ht), scarlet red - 10d.
Earl of Warwick (ht),sal.rose 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),apricot pink 10d.
Mme. Ed. Herriot, red - 10d.
Molly S. Crawford (t),white 10d.
Mrs. A. Ward (ht),Indian yel. 10d.
Rayon d'Or (hb),orange cad. 1/-
Richmond (ht), scarlet - 10d.

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Suitable towns' small gardens. 6/- Carriage Paid.
Purple Speedwell, evergreen.
Double Gorse, yellow.
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Spiræa, Anthony Waterer, red.
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Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
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Starry Daisy Bush, white
Lavender, true fragrant sort.
Hardy Scotch Fuchsia, red.
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May Broom, very pretty.

For Illustrations in Colour
and descriptions see Catalogue No. 58, issued last season. A few spare copies post free on request.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

TO the observant there is always something to be learned from a snapshot, whether it be of birds, houses or poultry runs.

This Week's Illustration.—With my notes this week is reproduced a photograph of some of the breeding pens on Mr. Sydney Hiller's Poultry Farm at Standon, Herts, and we will scrutinise it for educational matter. In the first place the runs or enclosures are spacious, measuring some 30 yards by 25 yards. This is always an advantage, even though their planning may mean additional expenditure. I like nice roomy runs, because they can so readily be remodelled to suit any scheme the breeder may have in mind. It may happen that the heavy demand for sittings of eggs or day-old chicks compels the owner to mate up extra pens of birds. If so, all he has to do is to instal another house in the run and divide the latter into two by means of a wire-netting partition. Again, he may wish to reserve one of the enclosures for his growing chickens, or for moulting stock, or for a large number of surplus cockerels. Here, too, he has but to place more houses in the run and he can keep his birds together.

On Housing.—The house seen in the illustration is a useful type of combined roost and scratching-shed that is very commonly used for breeding stock. It is not a "laying" structure, although for "general" use on the farm it is hard to beat. During the rearing season it is quite customary to see a number of such houses lined up in an open field—the rearing grounds—as accommodation for the young growing stock running about. As the cockerels grow to a decent size, these, too, are often housed in small flocks in such houses. With a number of such structures kept handy about the farm it will be seen how readily the owner can turn a large enclosure over to the half-grown young stock merely by placing in the run several of these small houses. In the above direction such structures have their merits, but it is when poultry-keepers treat them as *winter* laying houses that they do not allow of the best results.

For Laying Purposes.—I must place emphasis on the word "winter," because in other seasons they are not so much at a disadvantage by way of laying results. If the owner is prepared to erect a nice commodious open-fronted scratching shelter adjacent to each small house of the type in question, then he will convert it into a *winter* laying house. The back, side and roof of the shelter must be covered in, while the front should consist of wire-netting. The front, however, must be controlled by a hinged shutter at the top and matchboarded at the bottom for a reasonable way up. As regards the flooring, I would suggest a wooden one, raised off the ground if the site is heavy or damp. Failing a wooden floor to the shelter, the turf should be removed and the ground beaten down, a good depth of peat-moss being placed on top as the scratching litter.

The Supports.—One does not have to look twice at the photograph to discover that the run is stoutly built. The class of timber used as supports for the wire-netting tells its own tale. The art in erecting wire-netting lies in so arranging it that it is always taut. Where stout supports are used they can be fixed a reasonable distance from each other. If thin battens are employed, many are required, and they must be erected quite close together. There are many reasons why wire-netting should be taut. In the first place, loose, baggy netting looks unsightly and does not leave a good impression of the farm on the minds of visitors. Secondly, it weakens the erection, and the wind is likely to play havoc with it sooner or later. Thirdly, it is always needing repairs on account of the wear and tear, which is greater on loose than taut wire-netting. Fourthly, if the wind catches it fairly, the supports close at hand will probably be blown down, snapping under the strain, and that will mean further outlay and a waste of time and labour.

WELL-PLANNED BREEDING PENS.

Snapshot taken on Mr. Sydney Hiller's Poultry Farm at Standon, Herts. (*See text.*)

Dividing Boards.—It has always been a surprise to me why "dividing boards" are not more popular with poultry-keepers. The idea can be clearly seen from a glance at the illustration. Instead of having wire-netting only as the partitions to the runs, matchboarding is fixed at the bottom to a height of, say, 2 feet 6 inches, with netting above. The advantages of such an arrangement may not be apparent at first sight, but they are nevertheless there. In the first place, the matchboarding prevents the inmates of one pen from fighting with those of the next enclosure. During the breeding season male birds are generally quarrelsome, and it is always wise to prevent them from fighting. If this is not done, fertility will probably suffer. I have known many cases where two male birds have fought through the wire-netting until both have fell exhausted and bleeding. In such a condition neither bird can possibly attend properly to its breeding duties for a long time, and infertile eggs appear as the result.

Protecting the Layers.—Such dividing boards, however, offer the best advantage in protecting the layers from ground winds. On a bitterly cold day the birds in an ordinary wire-netting enclosure will mope around the house trying to shake off the elements on the sheltered side of their structure. Note the difference where dividing boards are employed. True, the birds will sometimes be seen near the boards, but they will have a happy rather than a mopish look on their countenances. They will look as if they are enjoying life, and every now and then they will stroll about the run and go back again to their sheltered spot. Such antics will be noticed not only in the winter, but also during the moulting period. Where roomy laying houses are installed, the layers can be confined therein on very cold days and allowed out only for a period. Such controlment, however, is not short possible with the ordinary type of small breeding house.

Handling Non-Sitters.—It is the light or non-sitting breeds which feel the "pinch," so to speak, at least more so than the heavy varieties. If matchboarding, however, is fixed, not only as partitions to runs, but on all open and disagreeable sides, the results by way of egg-production and health will be greatly increased. The extra outlay will be well repaid. Where there is a sequence of breeding pens, the ground winds will "hit" the first set of dividing boards and go right over those arranged below, with the result that the inmates of all the enclosures will be protected—from top to bottom of the farm.

Early Chicks.—Those who practise early rearing will obtain a greater fertility and hatching percentage where dividing boards are erected than where open runs are the order of the day. And early mating is desirable in the case of heavy breeds where March-hatched chicks are required to represent the next winter's layers. It is also necessary where a few February-hatched chicks are needed to produce well-matured cockerels for use in the breeding pens the next year. These dividing boards are recommended not only for the enclosures accommodating the breeding stock, but also those containing the young chickens. As a substitute for matchboarding, some poultry-breeders use sheets of corrugated iron, while others bring into play waterproofed canvas and not a few try wattled hurdles.

Wattled Hurdles.—Wattled hurdles should play a far greater part in the plant of the poultry-keeper than they do at the moment. I am glad, however, to see them coming into favour. They can be arranged as the lower half of all dividing partitions or employed in the erection of scratching shelters to advantage. When thatched they are useful as roofs, ensuring an even temperature within the structures.

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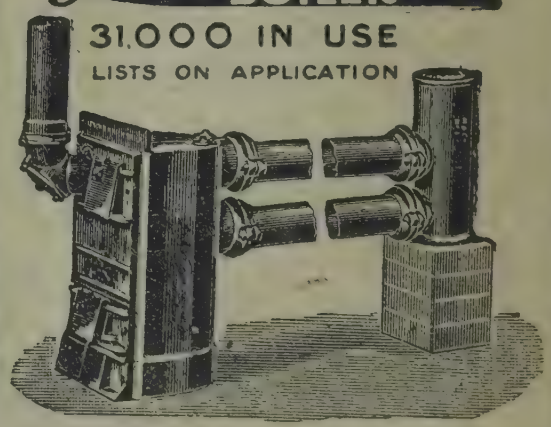

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FOR GARDEN, ORCHARD, WOODLAND
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"THE GARDEN" CATALOGUE GUIDE

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IN accordance with the Board of Trade Paper Restrictions, and also that of the Post Office, catalogues cannot now be sent without a written application. We therefore beg to point out that the under-mentioned firms will be very pleased to send their useful catalogues to our readers free of charge, on receipt of a post card.

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Although most of our time and attention is now devoted to utilitarian crops, we still find some time and labour to keep up the culture of one of our old specialities, Lilacs, whose soothing beauty and fragrance is almost a necessity in these days of blood and iron. Lilacs should be planted in the Autumn in good soil where they can obtain plenty of moisture.

Descriptive Catalogue (a limited quantity only) of all Trees and Flowering Shrubs free on application.

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Established 1780.

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FRUIT TREES

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W.H.A.

GEORGE BUNYARD & CO. Ltd.
Royal Nurseries,
MAIDSTONE.

SPECIAL REDUCED PRICES
EARLY SCOTCH SEED POTATOES.

BEES Ltd. are now completing lifting and grading, and find crops heavier and cleaner than usual. Instead of putting this extra profit into their own pockets they are reducing prices to customers.

Orders are now being booked at prices quoted below for delivery when ready.

Orders already booked will also be executed at these reduced prices.

Special Terms to Allotment Societies.

	112lbs.	56lbs.	28lbs.	14lbs.	7lbs.
Epicure (Scotch). An old favourite which produces very heavy crops, and has tubers of good size ready to lift very early ...	15/-	8/-	4/4	2/3	1/2
Eclipse (Scotch). Splendid white round, very early, shallow eyes, good cooker...	18/-	9/6	5/-	2/9	1/6
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Sharpe's Express. Once grown in Lincolnshire	21/-	11/-	5/10	3/-	1/7
Sir John Llewellyn (Lincs.) First class in every way	21/-	11/-	5/10	3/-	1/7
British Queen (Scotch). Remarkably fine, both as regards cropping and cooking qualities. A superb second early; keeps well	15/-	8/-	4/4	2/3	1/2
British Queen. Once grown in Lincolnshire	15/-	8/-	4/4	2/3	1/2
Pioneer (Scotch). A greatly improved second early; first-class cooker and cropper	21/-	11/-	5/10	3/-	1/7
IMMUNE SEED POTATOES. Bees Ltd. are licensed by the Board of Agriculture to supply varieties suitable for planting in districts affected with Black Scab or Wart Disease.					
King George (Scotch). Although generally classed as a second early, this variety when grown from sprouted seed is ready for lifting as early as "Sharpe's Express" or "Epicure." It is an excellent cropper, does well everywhere, especially on medium and heavy soils. Owing to first early immune sorts being practically unprocurable, "King George" is in great demand as a first early.	18/-	9/6	5/-	2/9	1/6
Great Scot (Scotch). Second early, immense cropper, fine quality and flavour. Keeps as well as a main crop, strongly recommended.	18/-	9/6	5/-	2/9	1/6
Great Scot (Lincolnshire seed)	16/-	8/6	4/6	2/6	1/4
The Ally (Scotch). A second early immune variety with tuber of fine quality and shape, heavy cropper	24/-	12/6	6/6	3/6	2/-

(An excellent set of three potatoes for infected areas would be "King George," "Great Scot," and "Lochar" or "Templar." Prices of main crop sorts will be quoted later.)

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The above prices include cost of bags. If carriage is to be prepaid, please remit as under:—

	112lbs.	56lbs.	28lbs.	14lbs.	7lbs.
Up to 50 miles	1/3	1/-	-/8	-/7	-/7
,, 100 ,, ...	1/9	1/2	1/-	-/8	-/7
,, 200 ,, ...	2/4	1/7	1/2	-/11	-/7
Over 200 ,, ...	3/2	2/1	1/5	1/-	-/7

(To ascertain distance from Liverpool to your station look up passenger fare in time-table, which is calculated at about 1d. per mile. Thus, if ordinary passenger fare is between 4/3 and 8/4, the distance will be between 51 and 100 miles).

Shallots. 1lb. 1/2, 3½lbs. 3/-, 7lbs. 5/9, 14lbs. 10/6 Carriage paid.

Onion Sets. 1lb. 2/6, 2lbs. 4/6, 3lbs. 6/6, 4lbs. 8/6, 5lbs. 10/6 Carriage paid.

BEES Ltd., 175c Mill St., Liverpool.

A SPECIALITY FOR MORE THAN 50 YEARS.

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Exceptionally fine this season. Inspection invited.

J. R. PEARSON & SONS
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ROSES! IN ALL THE BEST AND POPULAR KINDS.

Fruit Trees, Bush Fruits, Evergreen and Ornamental Shrubs, Strawberry and Vegetable Plants for present planting. Strong **Seedlings, Wallflowers, Canterbury Bells, Bulbs, etc.**

Catalogue and List free on application.

ESTABLISHED OVER 50 YEARS.

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ARE HOLDING
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Every MONDAY, WEDNESDAY and FRIDAY.
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Commencing **Thursday, October 25th, 1917**
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Threepence in stamps will ensure Six Catalogues.

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General Jacqueminot (H.P.)
General McArthur (H.T.)
Gloire de Chedane Guinnoisseau (H.P.)
Hugh Dickson (H.P.)
Irish Fireflame (H.T.)
Jessie (D. Poly.)
Liberty (H.T.)
Madame A. Chatenay (H.T.)
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Madame Ravary (H.T.)
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N.B.—Any 6 H.P.'s and six of any other varieties supplied from this selection for **9/6.**

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Etc. Etc. Etc.

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MAGNIFICENT SHILLING PARCELS.

Twelve 1/- Parcels (or 20 at 6d.) for 10/-; Carriage Paid, Cash with order.

All Bulbs guaranteed strong flowering, and of best quality; money back if not satisfied.

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The finest of the well-known sorts, grandly-shaped and well-coloured flowers; does well indoors or out.

2.
20 Horsfieldi Daffodils, 1s.
Snowy-white petals; rich yellow trumpet; very handsome and early; borders or pots.

3.
25 Princeps Daffodils, 1s.
Primrose and gold; early flowering; specially recommended for borders and beds outdoors.

4.
25 Grandee Daffodils, 1s.
White and gold; a most graceful flower; very hardy; does remarkably well in shade.

5.
20 Golden Spur Daffs., 1s.
Glorious orange-gold shaded citron; most magnificent flower; quite unsurpassed.

6.
20 Sir Watkin Daffs. 1s.
Deep orange frilled trumpet, rich gold petals; a huge success everywhere indoors and out.

7.
35 Barri Narcissi, 1s.
Orange-scarlet cup, golden petals; light, graceful, free-flowering; splendid in fibre or soil.

8.
15 Double Yellow Daffs., 1s.
Huge double, golden-yellow, rose-shaped flowers; excellent all purposes.

9.
30 Double White Narciss., 1s.
Fragrant as a Gardenia; pure translucent white; blooms well into May.

10.
20 Double Orange Phœnix, 1s.
The famous Eggs and Bacon Daffodil; absolutely tip-top; very hardy and free.

11
40 Pheasant Eye Narciss., 1s.
Crimson, edged orange cup, purest white petals; flowers often 3 inches across.

12.
30 Ornatus Narcissus, 1s.
Vivid scarlet cup surrounded by snowy-white petals; first-class everywhere

13.
20 Giant Poets Narciss., 1s.
This early, large-flowered variety is new and scarce; white petals, scarlet cup.

14.
30 Large White Freesias, 1s.
The true refracta alba for growing indoors in pots of soil or fibre.

15.
20 Xmas White Narcissus, 1s.
French Paper White Narcissi cannot be supplied; this variety is in many respects superior.

16.
20 Grand Primo Narciss., 1s.
Primrose and gold; otherwise a counterpart of the Early Paper White; very fragrant.

17.
15 Monarque Narciss., 1s.
Yellow flowers with orange cups in huge bunches; very fragrant and early.

18
4 Violet-scented Iris, 1s.
Rich velvety violet with orange throat; deliciously scented; does well indoors or out.

19.
20 Golden Jonquils, 1s.
Dainty flowers for pots or bowls; a few scent an entire room; quite hardy outdoors.

20.
16 St. Brigid Anemone, 1s.
Huge, semi-double flowers in all shades of blue, violet, scarlet, rose, white, etc.

21.
30 Golden Winter Aconite, 1s.
Rich buttercup-yellow, with a dainty green ruffle; makes a fine edging.

22.
16 Scarlet Anemone, 1s.
The most vivid scarlet flower of Spring; irresistibly attractive; everybody stops to gaze at it.

23.
30 Bluebells (Scillas), 1s.
Do well in pots of soil or fibre; a great success under trees and in other shady places.

24.
25 Double Snowdrops, 1s.
Try these in pots of soil or fibre; they are exquisitely pretty when looked at closely.

25.
30 Single Snowdrops, 1s.
For planting as an edging to other bulbs, in beds, on graves, borders, &c.

26.
20 Clara Butt Tulip, 1s.
Most glorious pink, shaded salmon and silver; a huge success indoors and out.

27.
10 F. Sanders Tulip, 1s.
An incredibly dazzling shade of fiery scarlet; a most entrancing colour; huge size; perfect form.

28.
10 White Queen Tulip, 1s.
The only "white" Darwin, a stately and fine Tulip; huge, goblet-like blooms.

29.
15 Tonnaye Tulip, 1s.
Rich cherry-rose, shaded blush, edged delicate pink; one of the most useful.

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15 Laurentia Tulip, 1s.
Deep rosy-pink, shaded carmine, with a startlingly rich blue centre; extra.

31.
12 Mrs. Cleveland Tulip, 1s.
Old lavender-rose, shaded lilac and silver; flowers early; large size and stately habit.

32.
25 Gold Crown Tulip, 1s.
Rich golden-yellow, shaded and flamed scarlet; fine bedding and borders.

33.
15 Gesneriana Major Tulip, 1s.
Brilliant glowing scarlet dazzling blue centre; one of the most gorgeous of all Tulips.

34.
20 Sweet-scented Tulip, 1s.
T. macrospila has the fragrance of Sweet Peas and a fine crimson-scarlet colour.

35.
20 Rosalind Tulip, 1s.
Charming; cherry-carmine shaded rose, with white zone and blue centre.

36.
10 Inglescombe Yellow Tulip, 1s.
Perfection in form and colouring; deep canary-yellow; magnificent.

37.
20 Maiden's Blush Tulip, 1s.
One of the daintiest; white edged and feathered with rosy-cerise; the Picotee Tulip.

38.
15 La Candeur Tulip, 1s.
Pure white; very scarce; fine for bedding, borders, pots, &c.; good for cutting.

39.
15 Parisian Yellow Tulip, 1s.
Rich yellow; elegant flower; showy and reliable; beds, pots, borders, &c.

40.
20 Cottage Tulips, Mixed, 1s.
A very fine showy mixture; can be well recommended. Special price per 100, 4/6.

41.
15 Darwin Tulips, Mixed, 1s.
Includes a lot of fine art shades; very useful for cutting. Per 100, 6/6.

42.
50 Mixed Daffs. and Narciss., 1s.
Includes many handsome sorts, such as Emperor, Barri. Per 1,000, 18/-

43.
1 Peck "Bulbost," 1s.
Bees' Famous Bulb Fibre Compost. Sent Carriage Paid with Bulbs of 10/- value.

44.
5lb. "Bulbilizer," 1s.
Bees' Special Bulb Manure, sent Carriage Paid with Bulbs of 10/- value.

FREE BOOKLET of Instructions HOW TO GROW BULBS, when requested, with all orders of 10/- value.

TERMS CASH WITH ORDER.

Illustrated Catalogue of Bulbs free on request.

Bees Ltd

175 c, Mill St., LIVERPOOL

CHAPMAN & Co.'s FAMOUS ROSES

New Varieties 6d. each.

Our new descriptive Catalogue is now ready and will be sent post free on application.

CHAPMAN & CO.,
Royal Nurseries, Scraptoft, nr. Leicester

BLACK CURRANT BUD-MITE.

Are your bushes free of this incurable pest? If not, plant

"SEABROOK'S BLACK CURRANT,"
the only proved mite resister.

This variety has also every other good quality, being the heaviest cropper and stoutest grower, producing large firm berries.
Young bushes, **6/-** and **8/-** per dozen.

W. SEABROOK & SONS, Fruit Tree and Rose Nurseries, CHELMSFORD.

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Barr's New Plant Food
For Flowers Vegetables and Fruit of highest quality & guaranteed analysis

Phytobroma greatly increases all Vegetable Crops.

Guaranteed Analysis: 3·50% Nitrogen; 16·60% Soluble Phosphates; 13·50% Insoluble Phosphates; 3% Pure Potash.
7lb., **2/9**; 14lb., **5/6**; 28lb., **8/6**; 56lb. **15/-**; 1 cwt., **28/-**

Prepaid Orders for 28lb. and upwards carriage paid.
Circular with full particulars on application.

BARR and SONS,
King Street, Covent Garden, LONDON

THE GARDEN.

No. 2397.—Vol. LXXXI.] [October 27, 1917.

NOTES OF THE WEEK

THE Rose planting season has come round once again, and following our usual custom at this season our next issue will be mainly devoted to Roses. Among the contributors are Miss Jekyll, V.M.H., on "Neglected Roses"; and our special Rose contributors—"White Lady," on "Red Roses"; "Danecroft," on "Roses for Allotments"; H. R. Darlington, on "Wichuraiana Roses"; and Mr. L. J. Cook, on "Roses for Market." With this number Mr. R. A. Rolfe, A.L.S., who is making a special study of the genus Rosa, will commence a series of articles on "Wild Roses," containing descriptions of the best new and old species; and Mr. E. Molyneux, V.M.H., will commence a series of articles on "New Roses." This number will also contain an illustrated account of Oxted Place, the home of Mr. Herbert Wettern, the noted amateur exhibitor of Roses. This number will be published at our usual price. Already we have received a great many orders for extra copies of this number, and readers are advised to place their orders at the bookstalls in advance.

Improving Allotments.—As the result of the meeting of allotment-holders held in Essex Hall, Strand, on October 20, a series of proposals have been made which it is hoped will be approved by the Departmental Committee in charge of Food Production. We hope to draw further attention to these proposals, which include the provision of more land for allotments, increased security of tenure, skilled advice and instruction, co-operative purchase of seeds, tools, &c., and the systematic marketing of surplus produce. At the present time there is much overlapping of work, and it is hoped that the system of co-operative distribution may be utilised to the full.

Storing Onions.—Large bulbs of the Ailsa Craig section should have an airy site to keep them firm when required for spring use. Hanging them up is the best method of keeping them. Clean off all loose skin, tie them in ropes, and suspend them in a cool, airy site free from frost.

The Question of Soil Analysis.—At first it seems reasonable to assume that an analysis would be a certain method of ascertaining the plant foods that are present and those that are deficient in a soil. In actual practice this is not as simple as it may seem, and our leading experts on soil analysis agree that the most satisfactory method is to find out from the plants themselves what manurial treatment the soil requires. This point is ably dealt with on page 456 by Mr. F. J. Chittenden, who makes the capital suggestion of setting aside one plot in every group of allotments for experimental purposes. The demonstration plot, if carried out on the lines suggested, would be a source of great interest to allotment workers, and if properly conducted, no one would fail to learn the lessons it would have to teach.

The Rock Garden in Autumn.—Some plants require attention at this season, reducing any very spreading plant, such as Crucianella, and cutting it down close. The Thymes, Saxifrages of the Mossy section, and Arenaria balearica may be mentioned as other plants that may require curtailing. Some, again, may need pieces plucked out here and there in order to induce young growth where the plant has become worn out, and after cleaning all the portions some very light, fine soil should be spread over the whole, not forgetting a sprinkling over the plants also.

The Japanese Quince as a Pot Tree.—On the occasion of a recent visit to Messrs. George Bunyard and Co.'s nursery we were attracted by the long rows of seedlings of Cydonia Maulei heavily laden with fruits of varying size and colour. These seedlings were grown in pots plunged in the open ground. It is but the work of a moment to lift the pots, and each plant forms a picturesque subject with aromatic fruits, an object of interest and beauty well adapted to the drawing-room in the dull days of autumn and early winter.

JAPANESE QUINCE (CYDONIA MAULEI) AS A ROOM PLANT.

Geranium Wallichianum E. C. Buxton.—"Be sure to get Buxton's Variety," writes Mr. Farrer in referring to Geranium Wallichianum. And he is right, for then you will secure one whose flower is zoned by a pure, cold azure instead of indefinite shades of purple and reddish violet. This is, to our mind, the most beautiful member of a beautiful race. There is nothing heavy, nothing loud, nothing coarse in its exquisite blossoms. They are drawn, as they are tinted, in perfectly good taste. The whole plant is refined, well bred. If you want to grow it to perfection—it does not appear to be particular as to soil, provided it is well drained—place it where it will be screened from all but the evening sun and where there is some natural moisture. The first flowers opened this year about the middle of September. They have maintained a succession for a month, and will continue well into autumn.

Oxalis spectabilis.—Though infrequently seen, this is quite one of the best of its genus. The large trifoliate leaves are a rich green, banded with a ring of purple bronze, and above them is raised the tall flower-stem, which bears a succession of rosy carmine flowers of great size and beauty. The plant grows from a small bulb and appears to do anywhere in well-drained soil, whether in full sun or half shade.

Late Brooms.—Lovers of the "bonnie Broom" should get some plants of the late variety. These do not come into flower until the old type has gone over, and they continue in blossom until quite the end of July. They are, therefore, a great acquisition to the shrubbery or wild garden. These late Brooms, which are the result of patient selection, are even more prolific bloomers than the wild form, and they are admirable subjects for hot, dry banks and poor soil. They mostly follow the type in colour, but the crimson and gold of Cytisus Andreanus sometimes occurs. Seed is the best method of propagation.

Pot Marigold (Calendula officinalis):—It is hardly necessary to remind anyone of the value of this fine old annual, but, as with all other annual plants, the advantage of cutting off overblown flowers, that would otherwise exhaust the plant by going to seed, cannot be too often insisted on. A row of Marigolds was sown last spring for the purpose of drying the petals as a medicinal crop. The first blooms were cut about the middle of June, and from then onwards to the middle of August every fully developed flower was picked, the gathering taking place on two regular days of the week when the plants were regularly covered with fresh relays of bloom. By the third week of August the plants, note withstanding the constant cutting, had grown tall and widely branched, and looked more or less exhausted. We then cut them hard back, to within 8 inches of the ground, and awaited the result. By the last week of September they had made sturdy growth of great vigour and were again loaded with bloom, and as they are very hardy they look like lasting well into November. The flowers are larger and of a deeper and more splendid colour than they have been all the year; some of the fully double flowers measure 4 inches across.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

THE SPECIFIC NAME OF THE COMMON HYDRANGEA.

ON page 330 Sir Herbert Maxwell states that this shrub was called Hydrangea Hortensia by De Candolle, after Hortense de Beauharnais, Queen of Holland, but does not give any authority for the statement. So far as I can ascertain, the first published mention of the name "Hortensia" occurs in Jussieu's "Genera Plantarum," page 214, which appeared in Paris in the year 1789. Hortensia is there given as a generic name and is attributed to Commerson, but I have been unable to find any previous publication of the name by this botanist, and it may have existed in manuscript only when used by Jussieu. That, however, does not matter. Commerson died in 1773, ten years before Hortense de Beauharnais was born, and she was only six years of age when the name first appeared in print. It seems impossible, therefore, that the origin of the name could have had any connection with her. Jaubert, who published an inventory of the plants growing at Trianon in 1876, states that the name was given in honour of Mme. Hortense Lepaute, a friend of Commerson (not Lamarck as I have elsewhere stated). Loudon, in the "Arboretum et Fruticetum," Vol. II., page 996, is even more explicit. He says "it was named by the celebrated Commerson in honour of Mme. Hortense Lapeaute [sic], the wife of his most particular friend, M. Lapeaute, a watchmaker. Commerson first named it Lapeautia; but in order that the compliment paid to Mme. Lapeaute might be the more direct, he changed the name to that of Hortensia, from her Christian name Hortense." With regard to the proper name for the plant itself, it was first called Hortensia opuloides by Lamarck in the third volume of his Encyclopædia, published in 1789. Three years later, Sir J. E. Smith, declining to accept Hortensia as a separate genus (in which he has proved to be right) gave the plant the name Hydrangea hortensis ("Icones Pictæ," t. 12). If we accept what has been known as the "Kew" rule, which gives a plant the oldest specific name published in conjunction with the proper generic name, then Smith's name stands; but if the "Vienna" rule be adopted, the oldest specific name published must be used, no matter with what genus it was first associated. This gives us the name Hydrangea opuloides, which is, in fact, used by some Continental and American authors. As for the name Hydrangea Hortensia, so far from having priority, it came in a bad third and did not appear until 1829, when it was employed by Siebold.—W. J. BEAN.

PARSNIP SOUP.

I AM sending a recipe for Parsnip soup which we found very useful last winter, and which may interest some of your readers if you care to put it in THE GARDEN. We had considerable difficulty in making use of our Parsnips last winter, as we found so many people objected to the strong flavour, but after much experimenting we evolved the following recipe for Parsnip soup, which very much modifies the flavour and makes a most excellent soup. It is made as follows: Four good Parsnips, two pints of water, one pint of milk, half a teacupful of sago, curry and a little salt. Boil the Parsnips with the water and milk for two hours and then sieve. Add the curry, which has been moistened with a little hot water, and the sago, and boil for twenty minutes. If any of the soup is left over, it is even improved by being warmed up and is more creamy the second day.—H. G. H.

WATER SNAILS IN LILY POND.

I TOO have a Lily pond infested with snails like those "A. W." describes in THE GARDEN of October 13; but mine is also full of goldfish, a species of carp, so I doubt your remedy. Nymphæas, goldfish and snails get on very well together in my case, and have done so for several years, so I shall let them remain. Toads in early spring are a far greater nuisance than snails. They come long distances to breed, and did so directly my pond was made fifteen years ago, though how they found it out is a mystery, as there is no similar piece of water near.—F. W. B., *North Devon.*

SUGAR BEET AND BROWN BEANS.

ONE must confess to a vast sense of consolation on reading the value of Sugar Beet as a pig food, rivalling that of the much lauded Potato; for is not one pound of either equal in feeding qualities? Or, such is the news boomed forth by every gardening column. Sugar Beet—pale-faced brother of the red skin—was but lately a homely panacea for all those multitudinous ills that rise from the possession of an unsatisfied sweet tooth. Alas! But the sorrows of humankind will furnish the all too brief joys of a sty, and return after many days a tasty rasher. Would you spare your ears the agony of swinish doom? The outer leaves of Beet, pulled and cooked as Spinach Beet, furnish a good substitute for that vegetable; and in the last week or so a correspondent of the *Nottingham Guardian* vouches for the pleasant excellence of Beet cakes made as follows (a mere man, who only knows that by some mysterious craft the once prosaic vegetable becomes a fit morsel for the epicure, I yet venture to pass on the recipe to those many and honourable devotees of whatever goddess chances to preside over the kitchen); "Wash and boil the Sugar Beet without cutting it except to remove the leaves. [Of course, but I am setting it out exactly.]' When cooked, the skin will strip off easily. Mash the Beet to a pulp, and to every 4oz. work in 4oz. of ground rice and 2oz. of flour into which has been worked 2oz. of margarine, or butter, and a pinch of salt. Flavouring is optional. Make into small cakes—no water or milk is needed—and bake thoroughly to a crisp brown." Not in vain have we laboured with tireless hoe among the rows of Beet, and the pig shall return to wallow in his husks. So, as Pepys would have it, to Beans. Truly the Royal Horticultural Society has found in its Dutch Brown Beans a valuable garden crop. From a solitary half pint I have gathered for winter store a great quantity of dried seeds, pleasing to the eye by reason of their golden brownness. Five or six seeds to a pod, of which there are some scores on every plant, bring within reach the Biblical return of a hundredfold, and therefore are heartily to be recommended.—RONALD C. S. Ross.

SPRAYING POTATOES.

SOME cultivators say that the spraying of Potatoes is useless work; others are very keen on spraying and say it is time and labour well spent. Cultivators who have sprayed their Potatoes year after year for many years back would not have done so if they had not reaped good results from it. But the work of spraying is not done soon enough, and I have repeatedly told cultivators so in this district during the present season. At a recent meeting of the Highcliffe Gardeners' Association the point was discussed. In a competition among members in Potato growing, Mr. James Murray, head-gardener, Sopley Park, Christchurch, had a yield of 422lb. from fifty sets. About ten sets were cut, but in the yield there was no difference between that from the cut and that from the uncut sets. Three individual roots were weighed and turned the scales at 10½lb., 12½lb. and 13lb., respectively. There were three diseased tubers. The haulm was more than 6 feet high when held upright, and bore numerous flowers in the second week of September. The haulm was free from disease. Mr. Murray was asked at the gardeners' meeting if he had sprayed; if so, when and how many times. He said he sprayed the haulm four times, the first early in June when it was about a foot high. The other sprayings were done when the haulm was, of course, much more advanced, and he said he could not do it thoroughly on that account—not as well as at the first spraying. Other Potatoes sprayed the first time much later than the date given above were diseased to a certain extent in the same garden; and other plots of Potatoes in the same garden not sprayed at all were badly diseased.—GEORGE GARNER.

OUTDOOR TOMATOES.

IT is probable that more Tomatoes have been grown outdoors this year than ever before, and if growers would give their experience, the information would prove useful to many. The varieties I grew were Kondine Red and Sunrise. The former gave a capital crop of good-sized fruits, but they were very late in maturing. The third bunch on Sunrise was colouring before the first on Kondine Red showed the slightest indication of ripening, although the plants were the same age and planted out at the same time. Sunrise cropped well, but there were too many small fruits. What is wanted for outdoor culture is a variety that will crop well, with about six to eight fruits to the pound, and one that will mature early. Holmes' Ideal and Princess of Wales are spoken well of. Can they be recommended for ripening early? A variety raised in Devonshire—Duke's Special No. 1—is being boomed, but what does well in "glorious Devon" may not suit a more northern latitude. Perhaps Mr. F. R. Castle, whose articles in the spring were so thoroughly practical, can recommend a variety that combines the above qualities.—S. E. D. T., *Bridgnorth.*

SHOULD ONIONS BE GROWN ON THE SAME BEDS FOR MANY YEARS?

NO doubt many readers will be greatly interested in the reference to the above query in "Notes of the Week," issue October 13. From my own experience I unhesitatingly say that Onions may be most successfully grown on the same plot year after year. Of course, I would not grow them on the same plot for many years in succession in a garden where there was ample room for a change. In small gardens, and in others where the soil was not very suitable except on a certain plot, it would be advisable to grow the Onions on the latter. I am growing Onions on the same bed each year, and every year the bulbs are better. Very little manure is dug in, but a lot of wood-ashes, burnt soil and a moderate quantity of soot are dug in during the winter months. Liquid manure is applied while the plants are growing freely. For many years I also grew Celery on the same bed, planting on the level ground. The plants were for exhibition, and served their purpose well. The soil was deeply trenched and well manured, the plants staked in the summer, surface mulched and fed with liquid manure. The blanching was done by placing sand and sifted ashes next to the stalks,

and ordinary soil to form the bulk of the ridge. For several years I have grown Carrots on the same bed. Many readers of THE GARDEN will remember the fine produce exhibited at leading shows by Mr. G. Lambert when he exhibited vegetables so successfully. I believe he grew Parsnips and several other kinds of vegetables on the same beds for many years until quite high ridges were formed.—G. G.

WHEN we see the Onion-bed in gardens where such handsome bulbs are grown and exhibited year after year, and note that in time it gets higher and higher than the surrounding ground level by at least a yard, we can only arrive at one conclusion, and that is that "nothing succeeds like success." The gradual increase in the depth of soil is owing to the extra material added to it in the way of manure yearly, until the Onions have a rooting space of from 4 feet to 5 feet deep. In the first place, the site would be trenched 3 feet deep, knowing, as the expert cultivator does, that the roots of a vigorous Onion plant will penetrate at least 2 feet deep in quest of moisture. The roots have been traced to this depth, and, naturally, with satisfactory results. The successful exhibitor of Onions is one whom we can all afford to follow in his methods if we wish to do something in cultivation and production out of the common. In the growing of many vegetables I am sure we worry too much about rotation of crops. If we would stop to consider the requirements of certain kinds and return to the soil the constituents such crops absorb, I think we should achieve greater success. A writer in the daily Press said some time ago that all the allotments and plots on which Potatoes had been grown this year should be changed next!—S. H.

A DOUBLE ESCHSCHOLZIA.

QUITE a number of new forms of the Californian Poppy have been evolved in recent years, but until recently I was unaware that a double variety was in existence. Possibly some may have seen such a type, but to most people I imagine it will be a new break of great promise. The new-comer is to be introduced next season by the Waller Seed Company, a big wholesale firm of Guadalupe, California, and doubtless home seedsmen will be stocking it. The variety has no other name than Double Pure White, the illustration of which shows it to be as double as a good Pink, which it much resembles. The same firm has evidently been working upon Eschscholzias, for it announces the advent of many new shades of colour, including purple. The Eschscholzia has in latter years shown a decided tendency to break away from the typical yellow, and I believe that the fiery bronze, red and pink tinted forms we have now have all been developed by selection.—T. A. W.

COLOUR DESCRIPTION.

MR. WARNER'S covert rebuke of my figures is justified. I wrote "hundreds of yellow Daffodils" and altered it to "thousands of," but forgot to strike out the first words; hence the exaggeration. I have, however, probably raised quite one hundred thousand, flowering at least two or three thousand annually for over thirty years. And I am sure that no two of these (very few of them have been selected and kept) were absolutely identical in colour. No one of these yellows has been green—to speak Irish fashion—so far, though artists tell us the Primrose is not yellow but green. Mr. Warner seems to misread me; I do not disagree, but agree, with his main contention that we should use our colour terms more accurately. I only meant to point out, first, that with our present pitifully slender colour vocabulary we can only discriminate colours very roughly; and, secondly, that it is impossible, and unprofitable if possible, to press such a change in well-understood ordinary speech as "warm" and "cold" for "red" and "blue." Perhaps both Mr. Warner and myself are apt to overlook the hindering fact that unfortunately some five people out of every ten have neither a natural nor an educated eye for colour, and that therefore blues and purples and lilacs probably *look* more alike to them than we can easily imagine.

"M. D." has a scientific knowledge to which I can make no claim. But it is not clear that his assertion, backed by Professor Tyndall's words, that colour is *not* a matter of surface, substantially refutes my contention. Whatever may be the precise process of absorption and reflection of light, and whether we speak of surface or of texture, it remains that colours on paper convey to the eye an impression often very different from the flower colours to which they are supposed to correspond. As to the absence of a colour sense in the Greeks, the verdict of scholars on Mr. Gladstone's paper was, if I remember rightly, "not proven." It is highly probable that in the Homeric age, when men were so fully occupied with eating and fighting, they had little leisure for either seeing or recording refinements of colour. Homer's epithet "wine-faced" of the sea has been said to indicate that he confounded blue with red-purple. But the sea often looks purple, and if there was no *word* for blue, the nearest common simile had to be used. Also the epithet may have referred to the sparkle or brightness of wine rather than to its colour. It is extremely doubtful, *a priori*, that there should have been this great gap in the perceptions of a people so extraordinarily artistic all round as the Greeks, except in quite prehistoric and barbarous times. It is much more probable that their marvellous sensitiveness to every subtle gradation of form was accompanied by an equal eye for colour, and that the deficiency was not in the sense but in the language to give it utterance, just as the vocabulary of the most colour-sensitive modern artist cannot cope with the myriads of tints and tones he perceives. If Greek pictures or textile fabrics had survived, we could judge better. As it is, the colouring on some Greek vases is extremely delicate and beautiful, and the same is true of some of the Pompeian wall-paintings, which were certainly executed by Greeks or copied from Greek originals. I fear I have helped to make this discussion rather too discursive.—G. H. ENGLEHEART.

APPLE THE HOUBLON, ONE OF THE BEST OF THE COX'S ORANGE PIPPIN SEEDLINGS (SLIGHTLY REDUCED).

APPLE ST. EVERARD.

YOUR correspondent asks for opinions on this fruit. With us it has rather a thick skin, but is an excellent September Apple. Unfortunately, some nurserymen list it as "October–December," when it is very woolly.—CORNWALL.

UTILITY AND QUALITY APPLES.

I AM reading with much interest and great respect the contributions of Mr. E. A. Bunyard in THE GARDEN on "The Culture of Fruit Trees." As an amateur gardener I value his distinction between the utility and quality lists of Apples, as I was originally much misled by the average nurseryman as to the value of individual varieties. Almost the only guides an inexperienced amateur has in his selection of trees when planting are the opinion of the nurseryman and the awards of the judges at shows. I accepted these guides and found both a delusion and a snare, and have only ultimately come to a sound judgment by planting numerous varieties of cordon trees and deciding for myself which were the best kinds for the orchard. It is encouraging to note that Mr. Bunyard's quality list contains my most appreciated fruits, with the exception of The Houblon, which I think much the best of the Cox's Orange Pippin seedlings. It is more beautiful, crisper and juicier than the parent, about the same size or a little larger, and a longer keeper. It cropped badly as a very young tree, but is improving with age. The soil here is a light red loam on sandstone rock, which suits the Cox's Orange Pippin and Margil types very well. I am glad to note Mr. Bunyard's appreciation of King's Acre Pippin, an Apple which has the delightful quality of retaining its summer freshness all through the winter without that woody hardness which is too characteristic of most of the late Apples. There is still room for one that is equally refreshing but will keep still longer. I trust that one of the minor advantages of these troublous times will be to teach the British public—now that they are compelled to use home-grown fruit—that England produces choicer and more beautiful Apples than any which are imported. At least it is "up to" the market gardeners to convey this lesson if they are not too obsessed with utility and too regardless of quality.—F. S. PAUL, *Cloudeslee, Caldy, Cheshire.*

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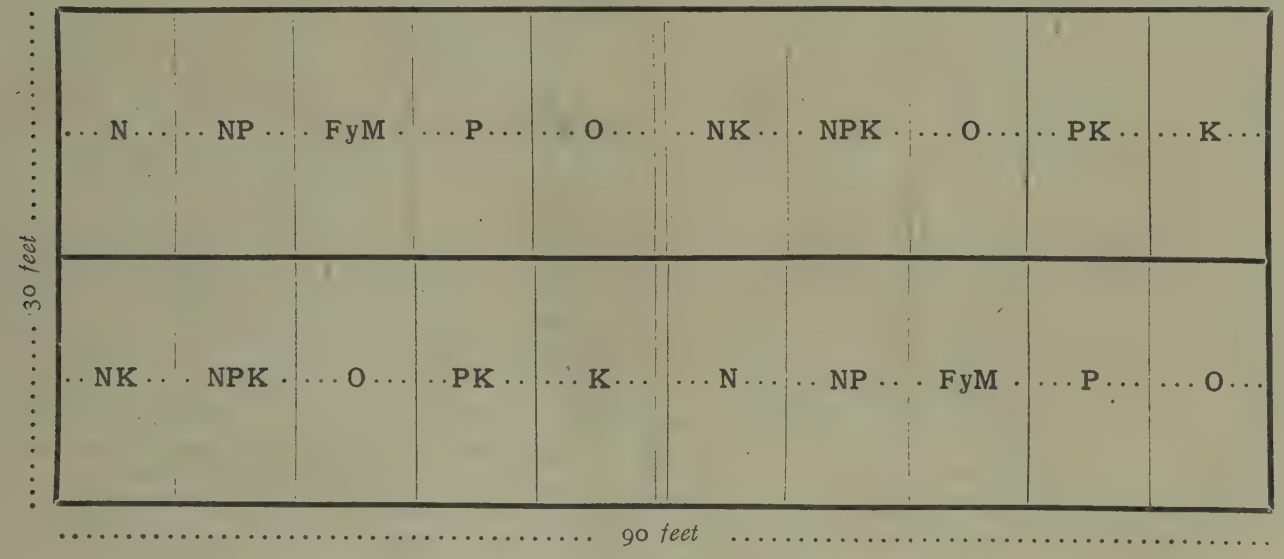
SOIL ANALYSIS

THE ADVANTAGES OF AN EXPERIMENTAL PLOT.

By F. J. Chittenden, F.L.S.

A GOOD deal of interest seems to have been aroused by the note on soil analysis which appeared a few weeks since in the columns of The Garden. A competent soil chemist *who knows all the facts* about the soil, and who has experience as well as the knowledge of the chemical composition of the soil, is able to give very valuable advice as to its manurial treatment. If he is not in possession of the other facts, he will probably be able to make suggestions which, if followed, will give good results; but by far the most certain method is to let the plants themselves tell what manurial treatment the soil requires.

Why should not a plot be set aside in every group of allotments for the demonstration of the effects of manure? Its rent, cultivation, manuring and so on should be a common charge, say, 2d. or 3d. each, upon the allotment holders. Its teaching would be their common property; its care the charge of one man who would duly carry out all the cultural operations in due season, and who would weigh and record the crops for the benefit of all. The plot might be of the usual size—10 square rods—and it should represent the average of the soil of the group. It should be thoroughly double-dug (drained, if necessary), then cut up into small plots as in the diagram below.



The continuous dividing lines represent paths 1 foot wide; the double line dividing the allotment into two equal parts is a path 2 feet wide. Each little division measures 14½ feet by 8 feet. They are all equal and nearly half a rod each. The letters in the oblongs indicate the manurial treatment each is to receive. It will be seen that each treatment occurs twice in different parts of the allotment, which will enable growers to see whether the soil varies and to what extent. The O means no manure, and occurs four times. N means a dressing of ½lb. sulphate of ammonia in spring; P, a dressing of 1¼lb. superphosphate in spring or 2lb. basic slag in autumn; K, a dressing of ¾lb. sulphate of potash in spring; FyM, a dressing of a barrowload of manure at the autumn digging time. Some plots receive one of these dressings, some more.

The same crop is to be grown on every plot; the same amounts of seed or numbers of plants are to be put on each plot; they are to be harvested from all the plots and weighed on the same day. Every cultural operation is to be carried out on the same day throughout the plots. Every plot should be very plainly labelled, and no one seeing the plots will then fail to learn the lessons they have to teach. If lime be deficient, then a strip such as is enclosed between the dotted lines on the diagram should be dressed with fresh slaked lime in autumn if the soil is heavy (five bushels of quicklime to be slaked on the ground will be required), or if light, with chalk, ten bushels.

Lifting and Replanting Unfruitful Trees

TREES that are making too luxuriant growth should be noted, and as soon as the right time arrives be lifted, root-pruned and replanted in a sweet, fertile compost. This is a very important item in connection with the production of regular crops of choice fruits. I have lifted the roots of large, unfruitful trees in the middle of October, with excellent results, Peaches, Nectarines, Plums, Pears and Cherries, also bush fruit, having been treated alike and brought to a very satisfactory state of bearing. I consider the end of October and early in November, when the soil is still warm, the best time to undertake the work. First let the soil and roots be well soaked with water so that every particle is thoroughly moistened to a good depth; then take out a trench 2 feet wide and from 3 feet to 4 feet away from the main stem, sufficiently deep to get well under the body of roots. Then gradually work towards the tree, removing the soil from among the tangled fibres with the aid of a fork, taking every care not to damage these more than is really possible. In working well beneath the tree, take every precaution not to miss a single thong that has taken a downward direction, for if one of these be missed the whole of the work will end in total failure. Sever them with a spade and trim the damaged end with a keen-edged knife previous to replanting them.

Having made certain of the roots, commence to put the drainage perfect, and then fill up with the prepared soil. Lay out the main thongs at different angles and various depths, and after the work has been completed give a good mulch of rather strawy manure all over the new soil. It is marvellous what can be done with unfruitful trees by lifting the roots and trees bodily, or by undermining and bringing the roots nearer the surface. In wet, low-lying land all fruit tree roots should be kept well up and somewhat above the surrounding land. Only a month or so ago I had brought to my notice an excellent crop of Gage and other varieties of Plums, the result of lifting and replanting the trees, which had previously borne only light crops. These trees were standards, 8 feet to 10 feet high, and grown by Mr. Field, Warren Gate, Herts. They were removed two seasons ago this autumn and replanted in a different part of the garden, which serves to show what may be done with fruit trees when tackled at the right time.

Barnet. H. Markham.

Pickled Pears: A Canadian Recipe

A CONDIMENT FOR COLD MEAT.

Ingredients: A peck of Pears, an ounce of cinnamon, three and a half pounds of light brown sugar, half an ounce of cloves and a quart of vinegar.

Method: Peel the Pears, leaving the stems on. Boil them in water till about half done, then lift out of the water and drain. Put the vinegar and sugar in a kettle on the stove, and when the sugar is dissolved put in the Pears, with the cinnamon and cloves in little bags, and boil with the Pears until the latter are well cooked. Then lift out the Pears carefully and put in glass preserve jars until the jars are three-quarters full. Boil the syrup for ten to fifteen minutes after taking out the Pears and remove the spice bags. Pour hot syrup on the Pears till the jars are full. Screw up tightly while hot.

This recipe arrives by a roundabout route to The Garden, for it came from Schenectady to an Australian cousin, who highly commends it to me, and I pass it on to The Garden. Anne Amateur.

CORDON PEARS

ONE cannot say that cordon-trained Pears are a success in every garden where they are planted, but when they do succeed there is no disputing the advantage of the method in obtaining much variety and a quantity of fruit from a limited space. One occasionally comes across satisfactory trees in the open, but as a rule it is from walls of various aspects that the greatest weight and finest quality of fruit are obtained.

Quite one of the best examples of this form of Pear-growing that I have seen is in the gardens at Rookesbury Park, Wickham, Hants, the residence of John Carpentier Garnier, Esq. The soil is of a sandy character, and to bring the trees into their present satisfactory condition Mr. N. Molyneux, the gardener, found it necessary after quite a few years' growth to replant them entirely, substituting for the existing soil some freshly cut turf. Certainly the present appearance of the trees gives proof of the advisability of the change of rooting medium. Some of the walls are 14 feet high, which provides ample scope for extended growth, and right well the trees have taken possession of the opportunity to cover the space, and abundantly yield large, clean, high quality fruit.

As a guide to future planters I jotted down a few varieties that were carrying heavy crops. There is much more variety than I could note. Mr. Molyneux pointed out the advisability of growing a good many sorts, as all do not crop every

year; therefore extended variety generally means an annual crop of fruit from one sort or another. The following I noted especially as carrying good crops: South wall.—Beurré Hardy, Beurré d'Amanlis, Glou Morceau, Dr. Hogg, Duchesse d'Angoulême, Mme. Treyve, Souvenir du Congrès, Williams' Bon Chrétien, Louise Bonne of Jersey, Pitmaston Duchess, Maréchal de la Cœur, Marie Louise, Brockworth Park, Comte de Lamy and Princess. West wall.—Beurré Diel, Beurré Bachelier, Beurré d'Aremberg, Passe Colmar, President Barabe, Jargonelle and Josephine de Malines.

S. P.

JUNIPERUS PHŒNICEA

Of the twenty odd species of Juniper in cultivation, this well-known Mediterranean species is one of the rarest in English gardens. In this country it does not attain large dimensions, usually forming a compact shrub or small tree. Last month I saw a small specimen on the lawn at Tortworth Court bearing a profusion of fruits in various stages of development. They take two years to ripen, and when mature are shining yellow or reddish brown in colour, providing a pleasing contrast to the bright green-foliage. The typical form has globose fruits, but there is a variety —turbinata—in which the berries are ovoid or shortly conical. The dimorphic foliage frequently seen on Junipers is not present on the branch photographed. There are also specimens of this Juniper at Highnam Court, Gloucester; Bicton, Devon; and Rostrevor in Ireland. The plant at Rostrevor is now 13 feet high. Aiton states that Juniperus phœnicea was first cultivated in Britain in 1683 by James Sutherland, curator of the Edinburgh Botanic Garden. As a wild tree it is widely distributed throughout the Mediterranean region. According to Lefebvre, it is common on the coast of Algeria, and ascends to 6,000 feet on the southern slopes of the mountains of the interior, where it is often the only arborescent vegetation. In the Canary Isles it was formerly common, but has been much destroyed on account of its use for firewood. In Cyprus an oil is distilled from the unripe berries of this Juniper, but it differs considerably in constitution from the Juniper oil of commerce distilled from the berries of J. communis, and has apparently little or no commercial value. A well-grown specimen of J. excelsa is also to be seen on the lawn at Tortworth Court, which possesses one of the finest private collections of new trees in the country.

A. BRUCE JACKSON.

Comments from a County Derry Garden

THERE have been many useful hints in THE GARDEN of late, and it is well worth the extra penny. Not having written anything since I, among many others, lost the dear old *Journal of Horticulture*, many an old and new friend was found through its pages, not forgetting the odd wrap, as it were, on the fingers from the Editor. I fancy I see some old friends shining in THE GARDEN. As regards Buddleia variabilis and others, such as Veitchiana, it is quite a sight on a fine day to see many kinds of butterflies enjoying themselves. Having to cut some sprays of bloom to send away and put them in water for a time, I find the butterflies on them in the potting-shed, which is some distance away from the trees. Not having much knowledge about the names of butterflies, I cannot tell the different kinds. Veronica Traversii, like that in the beautiful picture in THE GARDEN of September 15, was quite a sight here this year and [illegible] height, a mass of white around the upper tennis-court. It seems to be a first-class shrub for bees, of which we have eight hives.

I planted Potatoes with a dibber when a boy, first sowing superphosphate over the ground and raking it in with a wooden rake; of course, the soil was loose and an old garden. The results were fairly good; but I do not consider it workmanlike. My father used to say any old woman could plant Potatoes with a dibber. Regarding Phormium tenax, surely no one for the sake of a few extra coppers would spoil a beautiful plant of this for the want of tying. I would as soon do without (I was going to say sugar, but I am fairly off that now; as they say here we are not as sweet as we used to be) a fire or put on less. Bast and certain sorts of cord for trees are still cheap and lasting. We have a Royal George Peach tree which had about 220 Peaches of an average size. It is growing in a swimming bath, with the roots outside, and fed with liquid manure. The swimming bath has a glass roof and is ventilated like a greenhouse. The tree shades the bath in summer; of course, the bath is empty in winter.

I have tried sulphuric acid on Plantains in different ways, cutting the crowns and putting on the acid, also putting the acid on the crowns without cutting, and tried it with a pointed wooden stick on the side of the root, but after a time some of them grew again. Mealy bug on Vines, or on anything, is a plague in gardens, but I have not had it for years. I make it a practice never to take a cutting or plant from any place where the bug is. I have known my chief, some years ago, to try everything in reason to get rid of it, but after a time it came back again.

To planters of Apples I would recommend a variety that does well here almost every year, namely, Worcester Pearmain. It can be eaten off the tree. The colour is inviting and children are very fond of it, as are also the birds.

Ard'ara. JOHN M'CLEAN.

Effects of the Winter

MY experience of the effect of the last severe winter on rock plants, shrubs, &c., in my garden at the south end of Lake Windermere is as follows:

The common Laurel was cut badly in exposed situations. Gunnera scabra and Cape Pondflower suffered no damage at all. The Cape Pondweed, by the way, is sowing itself all over the pool. Arum Lilies in pots under the water survived, but all the young growth was eaten off in the spring by water-snails, which almost killed the plants. Lithospermum was erratic. In situations where it was sheltered from the bitter north-east wind it took no harm, but was killed, or nearly so, where exposed to wind. Some Cistuses died; others took no harm at all. Mossy Saxifrages came out of the ice in perfect condition. Dracæna indivisa and Chamærops Fortunei wintered well. The latter had a slight screen of sacking to protect it; not a leaf was browned. The Dracæna, which had been protected with hay-bands and the foliage tied up, lost the majority of its leaves through wet getting in, a tie having become unfastened. The tree, 8 feet high, has now quite recovered. New Zealand Flax and Arundo conspicua did not suffer at all. (By the way, it has never flowered here, but grows strongly.) Ceanothus Gloire de Versailles had to be partially cut back, but has since flowered well. Choisya ternata.—Some of the foliage suffered. Berberis Darwinii had some foliage browned. Lawson's Cypress.—Young trees of this in some cases were browned. Veronicas (shrubby) had to be cut back. Tree Heaths came through all right, but some of the Heathers had to be cut back. Hardy Fuchsias stood the frost, as did Hydrangea paniculata. The Bamboos of various kinds came through well. Magnolia conspicua, a lawn shrub here, flowered well, but, contrary to the ordinary [illegible], flowered [illegible] the foliage had burst.

A RARE JUNIPER (JUNIPERUS PHŒNICEA).

The most remarkable thing was that after the last frost and snow left us in early April all plants and shrubs developed amazingly, the result being a perfect riot of colour and fine foliage, all early and late spring things flowering together. Azaleas were magnificent, also Rhododendrons. Apples, Plums and kindred trees and almost all flowering shrubs were marvellous pictures of bloom. Here we never before experienced such a favourable season, and scarcely expect to do so again in our time. It was a wondrous season. There really was hardly any spring at all. We seemed to jump from midwinter to early summer almost at once. To show the severity of the season I may state that old Heather in large areas on the fells was cut well down, but the young, short Heather suffered no damage. Here there was little snow except in April, but a long period of black skies and bitter north-east wind in February and March.

The frost was not as severe as in many Midland districts, 25° on four or five nights being the severest spells.

Stock Park, Lakeside, Lancs. C. E. Hoyland.

NERINE NOTES—I

NOMENCLATURE—A BIT OF HISTORY OR ROMANCE—THE BENEFIT OF COLD (?)

By the Rev. Joseph Jacob.

Nerines or Guernsey Lilies?—I wonder if the general flower-loving public will ever take kindly, as the saying is, to the name Nerine. I am so accustomed to using it myself that I cannot imagine anything very "high l'arned" in the sound of such a familiar word. Yet without hardly any exception, when visitors are told that these glorious October flowers are Nerines, the question is asked, "But have they no other, no English name?" Then follows a short discourse about the Guernsey Lily, and reasons are given why "the curious" fight shy of converting the ancient English name of a single species into a generic one to cover the whole group or family, including the multitudinous hybrid forms of modern extraction. Some two years back I raised this question in the pages of The Garden and elsewhere. There was a decided consensus of opinion in favour of dropping the title Guernsey Lily, because sarniensis, which has borne this name since the days of Evelyn's "Calendarium Hortense" (1664), was, and still is, a poor bloomer, and it was thought that its adoption would be a wet blanket on a race of beautiful flowers which were just beginning to make a bid for popular favour. Herbert's word Nerine must be used exclusively.

Two years' experience has made me doubt the wisdom of this. First of all, the present generation know very little indeed about the Guernsey Lily, and are profoundly ignorant of its blooming properties. Secondly, if our flower ever becomes really popular, a good English name with a spice of history and a touch of ambiguity in it would be a *bene esse*. Thirdly, such a one is ready to hand in Guernsey Lily, and no other unappropriated name that I can think of is so satisfying to one's sense of fitness. Fourthly, to refuse to use the old name in an extended sense savours more of the doctrinaire than of the practical man, and from a remark on page 411 of his "Amaryllidaceæ" Dean Herbert himself would, in all probability, have acquiesced in it as being a good thing to do under the circumstances. May I plead, then, for our being allowed to call all Nerines Guernsey Lilies?

A POT OF NERINE OR GUERNSEY LILY EXCELLENS. (SEE "NICHOLSON.")

Tulips and Guernsey Lilies: A Coincidence. Man's culinary inclinations were, it is said, the means whereby the Tulip was secured for Western Europe and the Narcissus of Japan for Guernsey. The cargo of Tulips from Constantinople reached Antwerp, but no one could make much of them, and it was only the wish to give them another chance that a few were planted in a kitchen garden. The bulbs from Japan or the Cape of Good Hope never reached their journey's end, but suffered shipwreck off Guernsey, where, being washed ashore, the islanders found them and thought they had got hold of a new Onion—doubtless a sort of an Edwin Beckett production—which they at once planted, hoping later on to have a new and delicious vegetable for their tables. I feel I would like to be a poet and write a poem to the Onion that would commemorate the humble part it has played in giving us Westerns the most glorious flower of spring and the most glorious flower of autumn.

Cultural Queries.—A cultivator of Nerines wrote to me in September asking whether I thought that we were on the right tack when we kept our bulbs dry until we saw the little saucy-looking tongue protruding, as on one occasion, when some of his own bulbs got wet weeks before this sign of renewed growth appeared, he was rewarded with an extra bountiful harvest of bloom. Never having made the experiment myself, I cannot say; but if it be so, then all text-books are wrong, and from my own experience of six years I would not like to say they were. On the other hand, my own practice, which is exactly on their lines, has annually given me excellent results. Hence I still follow their teaching.

As my correspondent in all human probability will read these notes, may I ask him if it is not possible that as a rule Guernsey Lilies are kept too warm in winter-time? The autumn of 1917 has quite unexpectedly been the most floriferous season I have ever had. For the last four, or sometimes for five years, records of the number of heads of bloom of each pot has been carefully recorded on the label. With two or three exceptions there has been an increase on previous achievement, or at least an equality. Excellens, a rather nice pinkish flower with a red stripe down the centre of each petal, has had its photograph taken *à la* the aeroplane way—from above, and is here reproduced. The record of this particular pot is as follows: Three in 1913, three in 1914, five in 1915, seven in 1916, and eleven in 1917—not a bad performance, but one typical of many others. Take, for example, one of the best-known named hybrids raised by Mr. Elwes—Lady Mary Shelley. On this pot the label reads: Three in 1913, two in 1914, six in 1916, and eight in 1917. Why such profusion of bloom in this particular autumn? I cannot account for it unless it was the result of the very low temperature in which they had to be last December and January. On December 10 my greenhouse boiler began to leak, and I had to wait until February 6 before a new one was fixed. By a dreadful expenditure of paraffin I managed to keep out the frost during the trying week of the blizzard and on the nights when the mercury almost touched zero. More often than not the temperature was well below 40° at night, but the surprising thing is that not one is a penny the worse. In fact, one is inclined to think that their experience has benefited them. One expects Lady Mary Shelley, humilis, Epic, Lady Howard de Walden, Fothergillii major and Lady Bromley to give a good account of themselves annually, but when sarniensis comes out of its shell, something has happened. Was that something in this case that spell of cold?

(*To be continued.*)

AN ASPECT OF COLOUR IN RELATION TO PLANT LIFE

BY H. H. WARNER.

SINCE the appearance of Charles Darwin's immortal work, "The Fertilisation of Orchids," numerous books have been written dealing with the relationship that exists between insect and plant life. It is assumed that some flowers in the course of their evolution become blue in order to attract bees, as this is their favourite colour. Some blue flowers, such as those of Salvia patens, are most beautifully adapted mechanical appliances to secure fertilisation by flying insects; while others, such as the Gentians, protect themselves from unwelcome visitors by concealing their nectar at the base of a long tube. Again, it is assumed that other flowers become white solely in order to attract the night moths and become fertilised by them. It is quite true that the green colour of unripe fruit causes it to remain hidden among the foliage and thus protects it from the attacks of birds, while the colour of the fruit when ripe attracts them and so secures the distribution of the seed. But many flowers and fruits may, I think, partly owe their colours to quite another cause which I have not seen referred to. To understand this we must first briefly consider the nature of colour.

When a beam of sunlight passes through a prism it is split up, and yields a coloured image which Newton named the spectrum. This he divided into seven parts—red, orange, yellow, green, blue, indigo, and violet. The sense of violet is produced by the very rapid vibration of minute waves that are very refrangible, while the sense of red is produced by larger waves vibrating with only half the speed of the violet, and which are but little bent by their passage through the prism, being what is termed far less refrangible. The greatest heating effect occurs with waves at the red end of the spectrum, having a length of about forty millionths of an inch; the greatest luminosity to our eyes is possessed by yellow waves about twenty-two millionths of an inch in length; while the greatest photographic and chemical effect occurs with violet waves of about sixteen and a half millionths of an inch in length. The violet rays and the rays invisible to our eyes beyond the violet possess scarcely any heating properties, such properties being found in the red rays and those which lie beyond the red.

If we adopt the language of music, the range of visible light is represented by about one octave (the extreme violet vibrations having about double the frequency of the extreme red), but the infra-red waves go down to more than five octaves below, and the ultra-violet ascend to about two octaves above the rays visible to us. Perhaps the nearest approach to a monotone garden, which lasted for about a fortnight, that I ever saw (though that was a long way from it in reality) is the one shown in the accompanying photograph, where white Narcissi are flowering beneath white Plum blossom. It was taken, by kind permission of Mrs. Thomas Rochford, at Turnford Hall.

In his book entitled "Ants, Bees and Wasps," Sir John Lubbock—as he then was—records numerous experiments which prove that ants can perceive the ultra-violet waves which our eyes are unable to respond to. Natural bodies have showered upon them in the white light of the sun the sum total of all possible colours, and their action is limited to sifting that total.

The Rose is red, in virtue, not of the light reflected from its *surface*, but of the light which has entered that substance and which is reflected from within, and which in returning through that substance has all the colours but the red extinguished. In the hard green leaves the red is extinguished, and green light is sent from the body of the leaves to the eye. A leaf, a flower or a fruit, then, owes its colour to the power it possesses of absorbing or quenching some of the constituents of light and rejecting others. It is the portion of light which they reject and not that which they absorb that gives bodies their colours. *The colour is not in the flower, but in the light which the flower reflects.* But when we speak of light being quenched or absorbed it is by no means annihilated. It escapes the range of our vision, but may be perceived as heat. If we pass a black ribbon through the colours of the spectrum, it quenches all of them, and the meaning of blackness is revealed. It is the result of the absorption of all the constituents of sunlight. Pass a red ribbon through the spectrum; in the red light the ribbon appears red, because the light that enters the ribbon is not quenched or absorbed, but sent back to the eye. Place the same ribbon in the green of the spectrum and it appears black, because it absorbs the green light and renders the space on which it falls a space of intense darkness. If this red ribbon, while it appears black in the [illegible] would be found [illegible]. A black surface, such as a fence, becomes more heated when exposed to sunlight than a white one, because the black absorbs all the rays which fall upon it, while the white surface reflects them.

And now, after this brief outline of the nature of colour in the various objects we see around us, we come again to the point with which we started, viz., one of the uses of colour to the plant. It will now be clear that a flower appears white because it reflects all the rays of sunlight which fall upon it, and where this whiteness is combined with a glistening surface, as it is in the Madonna Lily, the flower will be protected from the heat no longer required to bring it to maturity, and it will therefore retain its beauty the longer. May it not be for this reason that we find flowers which grow in tropical regions are so frequently scarlet, such as the Hibiscus, the Gladiolus, Pelargonium, the Oriental Poppy, the Field Poppy, and the Cactus? Their rejection of the heating red rays must tend to preserve their blossoms. In the case of the ripe Currant, the Raspberry and Strawberry, the red colouring shows that they are now reflecting or rejecting the heat rays that fall upon them, which they so eagerly absorbed before they were ripe. But this red screen also effectually cuts off the chemical violet rays just as it does in the photographic dark-room. The fruit is now ripe, the chemical action which gives it the flavour is now complete, therefore the cooler the fruit is kept the better. The supply of further chemicals is automatically cut off when the fruit has reached perfection and the *status quo* is preserved.

In the case of the Elderberry, the black colouring of the fruits shows that they are still absorbing all the rays which fall upon them. Growing as they do in a shaded position, they need to gather what store of heat and chemicals they can. The Sloe and the Blackberry, which ripen their fruit late in the year when the action of sunlight is much weaker, absorb all they can also. The Bilberry, which ripens its dark berries on high

AN ALMOST MONOTONE GARDEN. WHITE NARCISSI FLOWERING BENEATH WHITE PLUM BLOSSOM.

and cool mountain slopes, does the same. When we see the autumn glory of the leaves of Ampelopsis Veitchii, may we not read in their crimson glow the message of a year's work done? They, too, are throwing off heat waves which they no longer require. They have screened off the violet chemical rays, thus preparing the parent plant for the gradual withdrawal of its sap that it may sink gently and safely into its long winter rest.

THE FRUIT GARDENS OF ENGLAND

MESSRS. GEORGE BUNYARD AND CO., LIMITED.

IT was only a few days before the great Autumn Fruit Show that we paid a visit to the Allington Nurseries of Messrs. George Bunyard and Co., Limited. Certainly we could not have chosen a better time to see the vast collection of Apples and Pears, a selection of which received the coveted gold medal of the Royal Horticultural Society. Seldom has the large thatched fruit-room at Allington held finer fruit. The nursery hands were still bringing in baskets laden with the pick of the Apples from the nursery. There was a wonderful assortment of Cox's Orange Pippin—clean and well coloured throughout. Already the pick of the fruits of this variety are realising 30s. a bushel in the market. We can well imagine how much these fruits will be appreciated in December, and cannot agree with those who regard it as a much overrated variety. The grand dishes of the very fragrant Gravenstein came in for a great deal of admiration. It is now just at its best for dessert, a crisp, juicy Apple on the small side and of good flavour. Among other dessert Apples which caught the eye in looking along the shelves of the fruit-room were Charles Ross, large fruits and all that could be desired from an exhibitor's point of view; Claygate Pearmain, of rich flavour and russety hue; Ben's Red, James Grieve and the pretty Kerry Pippin, three of the best September and October Apples.

An excellent trio of Pippins were represented by King's Acre Pippin, Allington Pippin and Fearn's Pippin. King of the Pippins was fair to look upon, but this we *do* regard as a much overrated variety in point of flavour.

Among the cooking Apples, seldom, if ever, have we seen finer fruits than those of Bramley's Seedling, Lane's Prince Albert, Bismarck and Warner's King.

Of Pears, Beurré Van Geert, Doyenné du Comice, Marguerite Marillat, Durondeau and Conference were of outstanding merit, and looked too tempting for words.

In passing through the nursery, several fruiting trees caught the eye by reason of their remarkably heavy crops of superior fruit. Some of these trees were photographed, among them Apple Rival, raised by the late Mr. Charles Ross, the trees of which carried more than a good sprinkling of handsomely shaded scarlet fruits. The lesser-known Belle de Boskoop, a handsome culinary Apple which originated at Boskoop, Holland, is worthy of extended planting over here. It keeps till April, and, among its other virtues, it is said on the Continent to resist American blight. Fearn's Pippin was also noted for its remarkably fine crops.

The stock of fruit trees is carefully scrutinised, especially in the fruiting season. No stone is left unturned to keep this vast collection true to name, and here we may say that the naming of fruit is brought to a very fine art at Allington. Comparisons are made not only in the fruits themselves, but in the leafage, stipules and buds, which vary greatly in different varieties, and also the stones, which show marked characteristics in the case of Plums and Cherries.

APPLE RIVAL. A WELL-CROPPED TREE.

THE HANDSOME CULINARY APPLE BELLE DE BOSKOOP.

Probably most, if not all, of the fruit will be gathered in before these notes appear in print, but there is always much of interest to be seen at Allington, and for the benefit of those who travel in these days we should say that the Allington Nurseries adjoin Barming Station on the London, Chatham and Dover Railway; but those who wish to see the Grape Vines and Figs, which are a speciality of this firm, should make for the South Eastern Railway Maidstone West Station, which adjoins this nursery, and here also may be seen greenhouse, herbaceous and rock plants galore.

Fruit-growers in general are ever ready to express their gratitude to this firm, which has done so much to encourage fruit-growing in this country and to promote the study of pomology on scientific lines.

Until recent years Mr. George Bunyard was a familiar figure at the fortnightly meetings of the Royal Horticultural Society, and he used to preside over the fruit and vegetable committee; but advancing years prevent him from journeying to London. We miss him at the shows, but we are glad to know that he is well enough to send occasional notes for publication in our "Correspondence" pages, and readers are always glad of the sound advice he offers.

The business is now under the able direction of Mr. E. A. Bunyard, a worthy son of a worthy

father, and one who needs no introduction to our readers. The catalogue of fruit trees edited by him is worthy of special praise. It was, we believe, the Rev. Joseph Jacob who aptly described it as the "'Who's Who' of fruit trees." To fruit-growers it is too well known and cherished to need further reference.

Japanese Windflowers, New and Old

IT cannot be said that the Japanese Windflower or Anemone japonica has been greatly improved either by selection or hybridisation. Contrary to a widespread belief, the original species has rose-coloured flowers, while the white form is in reality a variety of the pink species. There are, however, a few varieties to which special attention might be given. The first is Anemone japonica cristata, which is now (October 13) flowering in wonderful profusion. As this variety is apparently very little known, it will perhaps be as well if a brief description is given. In the first place, it is perfectly distinct, by virtue of its exquisitely cristated foliage, reminding one, in a degree, of the crested Hart's-tongue Fern. The flowers, which are rather small, are pink, and borne in profuse masses well above its unique foliage. It is not, however, tall growing, for it does not exceed 4 feet in height. In the writer's opinion the most beautiful of all the Japanese Anemones is hupehensis, a wild form that is said to be the original native species. Although extremely beautiful, it appears to be very little known. The flowers are of varying shades, pale pink and deep rose pink sepals and petals appearing in the same flowers.

In some gardens Queen Charlotte is regarded as the very best of the pink varieties, and it certainly is a noble plant, especially in heavy soils; but in other gardens it is superseded by Profusion and Mont Rose. The latter is a rather dwarf variety, usually less than 3 feet in height, but it continues to flower over a very long season and its flower-stems are still crowded with a perfect mass of large, semi-double, pink blooms. Mr. R. P. Brotherston of Prestonkirk, N.B., writing in praise of these beautiful flowers, says: "I find the white varieties difficult to grow well, no doubt on account of the soil being light and pervious. The largest of the whites is Géant des Blanches, which lived only a short time. Whirlwind, the most decorative of this colour, also died out after a time, and so did the old white, a particularly handsome border plant. The coloured forms, on the contrary, succeed very well, and a few of them are at present conspicuous in mixed borders for their general attractiveness." We are often asked to name plants that will thrive in clay soil, and the Japanese Anemone is one of the best. The roots are long and thick, and the plants appreciate a deeply cultivated soil. It is not advisable to replant them more than is absolutely necessary, and this is one reason why they often thrive in cottage gardens, where they are allowed to remain undisturbed for years. C. Q.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Potatoes.—All the Potatoes should now be lifted. Where they are in small quantities it is well to dry them by exposure during the day, as they keep better than when put away in a wet condition. Sort them into three sizes—those for use, seed, and small, which are only fit for pigs. Care should be taken in selecting the future seed to ensure the best shaped tubers; those weighing from 1oz. to 2oz. are the most suitable. Where a lot of tubers are in stock, no method of storage is superior to the old-fashioned clamp system. There should not be too great a width of Potatoes—3 feet to 4 feet at base—placing a thick covering of straw, then soil, and finally thatching the whole, if possible, leaving, of course, ventilators at the apex to emit steam from the sweating of the tubers. Small quantities can be stored in cellars or frost-proof sheds, covering the tubers with straw or bags to prevent greening.

A PEAR HOUSE AT ALLINGTON.
Uvedale's St. Germain in foreground.

Cabbage.—The persistent wet weather is not in favour of the growth of young plants recently put out, and slugs are very troublesome. Give the plot a dressing of soot and stir the surface soil about the plants. The more disturbance slugs meet with, the less harm they do; besides, the stirring of the soil accelerates the growth of the plants.

Cauliflowers.—Where the heads are turning in they should be daily examined, and protected from frost by cracking the leaves over the heads or, what is better still, tying the leaves over the top.

Carrots.—All Carrots, except the very small roots sown late for autumn use, should be taken up, cleaned, and stored in sand or ashes in a frost proof shed or cellar. Where the soil is especially heavy in character, the roots are liable to split with so much rain, and as they have completed their growth, there is no advantage in leaving them longer in the ground.

Beet.—The same remarks apply to Beet as to storage, only that more care is needed in freeing them from the soil and in lifting them to see that the roots are not bruised or the tap-root broken. If they are, there is a risk of them bleeding when cooked.

Autumn Onions.—The August-sown batch of plants are very promising in their growth. A sprinkling of soot or dry wood-ashes will be an advantage, as will a stirring of the soil to admit air to the roots.

The Hardy Fruit Garden.

Grease-Banding the Trees.—From past experience, where the winter moth caterpillar has caused damage to the blossom-buds the trees should be grease-banded as a preventive. In some localities the winter moth caterpillar does no harm, especially where poultry run under the trees. No doubt they eat many grubs, caterpillars and wingless moths. Some persons think grease-banding causes injury to the trees. This I agree with if not done properly; that is, if the grease is put on in such a manner that it comes in contact with the bark itself. Strips of corrugated paper 4 inches to 6 inches wide, covered with grease-proof paper on which the grease or a preparation is spread 2 inches wide, is the safe method of applying the remedy. If put on too thickly the sun occasionally melts the substance, inducing it to run down the stem, and this may cause injury to the bark.

Fruit Under Glass.

Pruning Peach and Nectarine Trees.—The latest bearing trees in the house can now be pruned; there is no occasion to wait until the leaves fall. Cut away all weakly shoots, giving more space to those retained. An ideal current season's shoot is one of the size of a cedar pencil, with plump buds, from which a full crop of fruit may reasonably be expected. Make certain the trees do not suffer from want of water at the roots; abundant moisture is required to enable the tree to perform its natural function of developing the embryo buds in the axils of the leaves.

The Flower Garden.

Planting the Beds for a spring display of Wallflowers, Myosotis, Primroses, Aubrietias and bulbs should be done at once, so that the plants will be well established before much frost is experienced. In the case of Tulips and Hyacinths the bulbs should be 4 inches deep and 9 inches apart. Deeply dig over the soil, especially that somewhat heavy in character, to provide a free percolation for surplus water from heavy rains.

The Herbaceous Border.—Cutting down the stems of such subjects as Helianthuses, Heleniums, &c., to give more space to Michaelmas Daisies is important, as if the latter are properly staked they require considerable space to allow the side shoots to develop.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Flower Garden.

Leaves.—Falling leaves are now becoming a source of trouble, for if left on lawns they are not only unsightly, but are also a serious hindrance later through the extra work involved in sweeping and raking. It is preferable, where they cannot be lifted frequently, to sweep the lawns and let the leaves remain in heaps as little exposed as possible. Exactly the same occurs on walks and roads when leaves are not removed at short intervals, the remedy here being to brush them to each side, leaving a clear space for passage in the centre. The time occupied in these partial clearances is not great, and saves a very considerable amount of labour when a final clearing up comes to be made.

Flower-Beds.—Directly these are cleared of their summer occupants, and provided no spring-flowering material is to be set in them, as will generally be the case, they should be dug deeply and all rubbish buried in the bottom of the furrows. If arrangements for next year have been made, those beds which are to be occupied by plants requiring manure may have it incorporated in the soil just now; otherwise it can be left till spring and the ground redug at the same time, which is always an advantage in breaking down the soil as finely as possible.

Bulb Planting.—Tulips and Irises (Spanish and English) need not be kept any longer out of the ground, but may be planted while it is not too wet. Much depends on the nature of the soil as to the depth to plant. On heavy, retentive soil they should be planted only 3 inches deep, while on very light soil they should be double that depth.

Gladioli.—Most of the sorts will now be ripe enough to lift. Those with leaves still green can also be lifted, provided the soil is not shaken from the corms, laying them out on the border of a perfectly cold house for some weeks till the leaves turn yellow. Many of the kinds now grown for decorative purposes and for cutting produce quantities of little corms at the base, and, indeed, all round them. These should be carefully preserved, as they make healthy, strong-flowering corms after growing on for one or two seasons; and should there be any of these so growing, it is better to protect them in the ground than to lift them till fully grown. Small seedlings should be treated similarly.

Arum Lilies.—If any flowers are required for Christmas, it is now full time to place a few plants into a warm stove, selecting those which are the most forward, and even at the expense of souring the soil keeping it always soaked as a means of forcing on the spathes. The remainder of the stock in the meantime should be placed in a cool house, and will require only a limited supply of water at the roots

Fruit Under Glass.

Peaches.—The early Peach trees should be finally examined, removing any shoots that have been missed when excising worn-out material. Then wash the trees with a solution of Gishurst Compound at the rate of 3oz. to the gallon of water, and tie the shoots to wires, allowing 5 inches or so for each shoot. Most of the late trees will have been denuded of fruit, and these should be pruned at once, taking as nearly as possible every shoot that will not be needed to furnish the trees for another year. If red spider has gained a footing, syringe repeatedly with a weak solution of Gishurst Compound or other insecticide. Bear in mind that the Peach is susceptible to injury from insecticides unless these are applied in a very diluted form.

Bottling Grapes.—The past two years I have cut nearly the whole of the Grapes about the middle of the present month, in 1915 with some trepidation; but, keeping for six months, I can recommend doing so to those whose Grapes are ripe and who have a dry room in which to put the bottles and the Grapes. The saving of coals and labour was the primary reason for bottling so early. If any should object to the loss of leaves resulting, that, of course, is not important considering the practice is to reduce the amount of foliage considerably at this period, and by inserting the portion beyond the bunch into water the loss of foliage is to that extent lessened.

Strawberries.—Those in pots should be transferred to cold frames, seeing that the soil in the pots is moist and packing fine coal-ashes or Cocoanut fibre refuse, if it can be had, quite up to the rims of the pots. Unless frost is hard, cold is not hurtful.

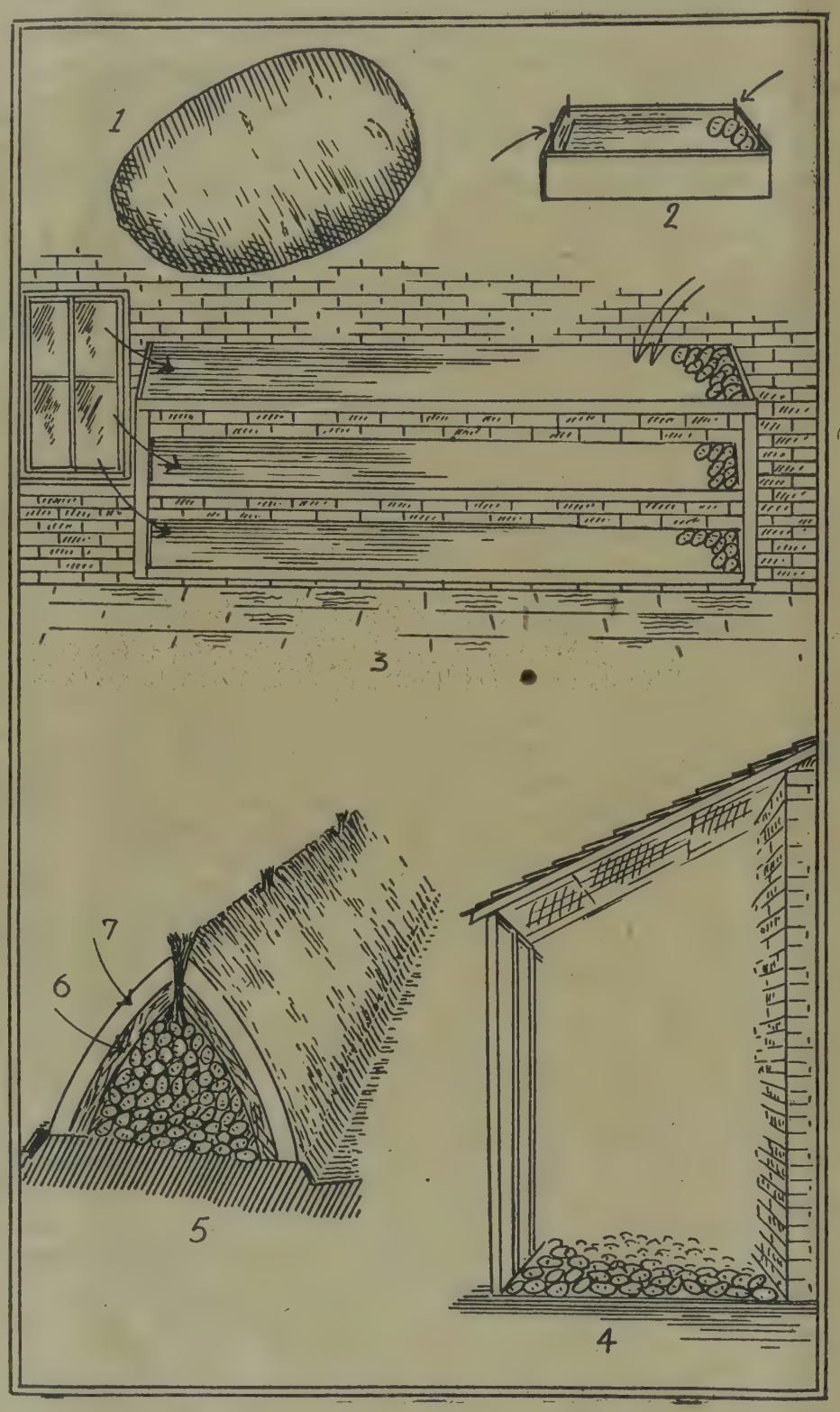
R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

POTATOES

GREENING SEED TUBERS—STORING EATING ONES.

BY GEORGE GARNER.

THOUSANDS of cultivators will now be very busy lifting and storing their Potatoes, both seed and eating tubers. Last winter the question of seed Potatoes was a difficult one to solve, as stocks were limited and the demand greater than in previous years. Those cultivators who can should purchase fresh seed tubers from other growers residing at a distance from their own district, as a change of seed is beneficial. But all cultivators are not in a position to buy the whole of their "sets" for planting next year, and where this is the case it will be necessary for them to make the very best use of seed tubers from their own gardens, and so treat them that they will produce a heavy crop when planted. It is probable that the disease may cause much havoc to the crops in some parts of the country this year; but, even so, cultivators should make preparations for very extensive planting next year, as the disease may not then cause much loss; and those persons suffering from its effects this year should not feel discouraged—at least, they should not *be* discouraged. Every care must also be taken in the matter of storing the eating tubers, as last winter, which proved very severe, losses were caused through inadequate covering of Potato clamps, &c.



GREENING SEED POTATO TUBERS; STORING EATING ONES.

The Importance of Greening Tubers.—When tubers intended for planting are greened in a proper way, they are not so likely to be diseased in the winter-time as those that are stored without greening. This is a fact I have proved year after year for a generation. I not only green the early varieties, but also the second-earlies and late sorts. Where many tons of the latter are retained and stored, it may not be possible to properly green and store them; but to the extreme limit of available conveniences general greening should be the rule.

The tubers are greened by laying them in boxes, in frames, or on the floors of sheds where full exposure to light and air can be secured with due protection from rain. It may be necessary to turn over the tubers three times; they must be turned twice at least. The skin becomes hard and of a blackish green colour; then the tubers must be permanently stored for the winter months. The sets of the early varieties should weigh from 2½oz. to 3oz. each; those of second-early and late sorts from 3oz. to 3½oz. each. If a tuber is weighed and closely observed by the workman, he will have a very clear idea of the size and be able to sort out the seed tubers very quickly. The latter must be of good shape and quality, after the style of that in sketch No. 1. Properly made seed-boxes are a boon, but the amateur may make use of ordinary boxes of varying sizes by simply nailing stakes in each corner so that the ends come about 4 inches above the top of the box; then a number of boxes may be placed one on the top of another (No. 2). In sheds shelves may be erected, as shown in sketch No. 3. If there are windows in the walls, as shown by the three arrows, light is shed on the tubers on the shelves and from skylights, as denoted by the double arrow. If there are no skylights in the storeroom, the door may be left open every day, even in the depth of winter, when the weather is favourable. There is no better place for greening the tubers than an open shed, as shown in No. 4. Maincrop varieties in bulk may be greened in this way. To properly green the tubers, the latter must be left in the shed for at least three weeks and be turned over once. On no account must the tubers be placed in a frame and the glass lights kept closed or nearly closed, else burning may result. Prop up the glass lights so as to permit a good current of air to pass through.

How to Store Eating Tubers.—A Yorkshire cultivator once told me that he always stored his tubers with soil adhering to them, and rarely had any diseased ones This is a debatable point. Inexperienced growers should be careful to

thoroughly examine the tubers for any diseased ones before the final storing. They must choose dry ground for open-air pits or clamps, and cover well with dry litter and soil. Long, narrow clamps with wisps of straight straw fixed in the ridge 5 feet apart for ventilation are the best, as shown in sketch No. 5. No. 6 shows the layer of straw, and No. 7 the layer of soil. In very severe weather short litter laid over all will keep out many degrees of frost. In sheds, only straw coverings are necessary.

COMMENTS ON "THE GARDEN"

THE concluding lines of Mr. Goodwin's article in the issue of October 20 so exactly describe my own feelings that I venture to endorse very fully what he and others have recently written on—shall we say?—"The Charm of (The) Gardens." After a hard day's work, and when the evening can no longer be spent in the garden, it is a real joy to sit by the fire and read THE GARDEN. And not only read, but mentally converse with those eager spirits who, week in, week out, combine to fill its pages with such varied matter. "My unknown friends" I call them (with apologies), and I try to picture not only the gardens, but the hearts and minds of those who have taught me so much.

The erudite, the simple, the bibliophile, the Nature-lover, the professional and the amateur gardener, the specialist or the veriest tyro—from rugged North and sunny South they come, their contributions forming a delightful pot-pourri, which "our Editor" mixes with consummate skill. Not once, but often, I re-read some of the choicer numbers; and when next I hear our City's fine orchestra play the "Nibelungenlied," it will not be the Land of the Nibelungs that in fancy I shall visit, but Mr. Dillistone's exquisite Iris garden, where "Knights in shining armour and great lords and barons of the realm flash forth" to do homage to "a dream of fair women." Thursday would indeed be a "beastly day" if it did not bring its GARDEN.

Altrincham. W. D.

SOCIETIES

ELGIN DISTRICT HORTICULTURAL SOCIETY.

THE interior of Elgin Town Hall underwent a charming transformation on October 10, the occasion being an exhibition of Chrysanthemums, fruit and vegetables under the auspices of the Elgin District Horticultural Society in aid of the local Red Cross funds. Not only was the varied colour of the flowers pleasing to the eye, but there was a material satisfaction, in these days when food supply is all-important, to be derived from the really magnificent display of fruit and vegetables. Probably never before has a finer show of the produce of the garden been seen in Elgin.

The total gross takings amounted to the handsome sum of £110, which shows a very substantial increase on any previous effort.

Many well-known gardeners had exhibits in the classes for Chrysanthemums, and competition was very keen. In the pot plant section Mr. A. Duff, Darliston; Mr. R. Macdonald, Springfield; Mr. C. E. Cumming, Pitgaveny; Mr. H. Boyd, Newmill; and Mr. J. Coutts, Rosefield, were the principal winners. In the section for cut flowers that very successful exhibitor, Mr. J. A. Grigor, Seapark, Kinloss, carried away the premier honours. Success also attended the entries of Mr. C. E. Cumming, Mr. J. Coutts, Mr. H. Boyd, Mr. R. Macdonald and Mr. W. Ogston, Newton.

There was a large number of choice exhibits in the amateur class for Chrysanthemums, the honours, of which were secured mainly by Mr. J. M'Gillivray, Newton; Mr. J. Taylor, New Elgin; and Bellie School Garden.

The display of fruit was, without doubt, the finest that has ever been seen in Elgin. The exhibits were arranged with much taste on either side of the hall, and brought out many expressions of delight on the part of the onlookers.

The gardeners displayed their fruit in the very best of condition, and the prizes were evenly divided among them. Mr. J. Coutts, Grangehall; Mr. J. A. Grigor, Mr. C. E. Cumming, Bellie School Garden, and Mr. A. Duff all secured premier awards. The two first prizes in the section for bottled fruit were gained by Mrs. T. L. Mann. In the amateur class Bellie School Garden (Mr. A. J. Adams, schoolmaster) was the principal prize-winner.

The exceptional producing powers of Morayshire gardens was made clearly evident by the show of vegetables. The entries were both numerous and of excellent quality, and altogether formed a feature of the exhibition. They included Potatoes, Carrots, Onions, Leeks, Vegetable Marrows, Beetroots, Cabbages, Cauliflowers, Celery, Peas, Beans and Turnips.

The principal prizewinners in the open class for vegetables were Mr. W. Ogston, Mr. J. A. Grigor, Mr. C. E. Cumming, Mr. H. Boyd and Mr. J. Coutts, Grangehall. In the amateur class Mr. J. M'Gillivray, Newton; Mr. J. George, Fochabers; and Bellie School Garden took the leading places.

The free gift stall of fruit, flowers and vegetables, set out at the back of the hall, attracted considerable attention, and although the articles for sale were very numerous, the demand was equally great.

There were several non-competitive exhibits staged, prominent among which was the magnificent display of Apples, Pears, Plums and bottled fruits shown by Mr. Charles Webster, the popular gardener of Gordon Castle. His exhibit occupied almost 20 feet of staging, and seldom has there been seen such an extensive collection of fruit of such splendid quality from any private place. Mr. Webster thoroughly deserved the compliments which he was receiving on all hands. Another very prominent fruit-grower, Mr. Thomas Macdonald, Orton House, put up a marvellous collection of dessert and cooking Apples. Mr. Macdonald takes a keen interest in his orchard, and for colour of fruit he would certainly be hard to beat. Both of these exhibits were generously given for sale on behalf of the Red Cross Society.

Another feature of the show was the splendidly staged exhibit by Mr. Thomas L. Mann, Batchen Street, Elgin, which occupied almost the entire front of the platform.

THE LATE MR. O. G. ORPEN WITH THE TEA AND NOISETTE TROPHY AND REPLICA.

GARDENERS' BENEFIT SOCIETY.

THE monthly meeting of the United Horticultural Benefit and Provident Society was held in the Royal Horticultural Society's Hall on Monday, October 8, Mr. C. H. Curtis presiding. Two new members were elected. Two members withdrew from their deposit accounts the sum of £54. The Army forms notifying the deaths of Privates M. C. Metcalfe and T. O. Edwards were received, and the sum of £13 19s. 2d. was passed for payment to their respective nominees. The sum of £1 2s. 9d. was also passed for payment to the nominee of a deceased lapsed member. The sick pay for the month on the ordinary side amounted to £42 11s., on the State Section to £16 15s. 4d., and maternity benefits to £3. The special general meeting *re* Juvenile Section, over which Mr. Charles H. Curtis presided, was also held, and the amended rules for that section were carried unanimously. The monthly meetings will take place at 6 p.m. during the winter months instead of 7 p.m.

EAST ANGLIAN HORTICULTURAL CLUB.

THE October meeting of this club, held at Norwich under the presidency of Mr. Herbert Perry, was very well attended. Mr. E. J. Oakley of Hobbies, Limited, Dereham, gave a most practical paper upon "Fruits," dealing more with their utility side rather than with the varieties to grow. For this purpose he placed the Apple in the first position, and the Plum second. How to keep up a succession, how to stone the fruits, and how to bottle the surplus soft fruits were all matters ably explained. The paper was followed by a good discussion. There was a fine display of Apples and Pears and a varied assortment of grand vegetables upon the exhibition tables.

OBITUARY

PRIVATE W. EASLEA.

READERS will join us in expressing great sympathy to our contributor Mr. W. Easlea, Danecroft Nursery, Eastwood, Essex, in the loss of his eldest son. Private W. Easlea was killed in action while performing the duties of stretcher-bearer under heavy shell fire. No man could hope for a nobler end than this. His officer writes: "A finer man I never met; he was absolutely upright and brave." In civil life Private Easlea assisted his father in his nursery and showed great promise as a rosarian.

CAPTAIN DUDLEY WALLACE.

WE greatly regret to announce the death in action of Captain Dudley Whistler Wallace, M.C., West Yorks Regiment, only son of Alderman and Mrs. R. W. Wallace of Kilnfield Nurseries, Colchester. A few months ago he was awarded the Military Cross for a gallant and successful raid carried out under his leadership. The gallant young officer fell on October 9, while leading his company into action under heavy shell fire.

O. G. ORPEN.

ROSE-GROWERS will regret to learn that that well-known exhibitor of Tea Roses, Mr. O. G. Orpen, passed away on Sunday, October 7. On the previous day he was at his business apparently in the best of health, and his end was quite unexpected. He was one of those amateurs—in the truest sense of the word—who grew, budded, pruned and staged his own Roses, and his modest boast was always that he was his own head-gardener. Although he was not by any means a big grower—confining himself to about 2,000 trees—he was perhaps one of the most successful of exhibitors, and had the proud distinction of winning the National Rose Society's Champion Tea Trophy on no fewer than seven occasions, besides numerous other trophies and prizes. As an exhibitor, too, he had a very important qualification, and that was—on rare occasions, it is true—the ability to take a beating with cheerfulness and equanimity. He was a very keen judge of Roses and a staunch supporter of the National Rose Society, of which he was a vice-president. One could not help being attracted by his genial and kindly personality, and the sympathy of all rosarians will be extended to his widow in her sad loss. C. P.

Trial of Spring-Sown Onions at Wisley, 1917.—The following awards have been made to spring-sown Onions by the Council of the Royal Horticultural Society after trial at Wisley. Highly commended: No. 35, A 1, sent by Messrs. Sutton, Reading; No. 20, Ailsa Craig, sent by Messrs. Dobbie, Edinburgh; No. 12, Bedfordshire Champion, sent by Messrs. Sutton, Reading; No. 32, Champion, sent by Messrs. E. W. King, Coggeshall. Commended: No. 26, Up-to-Date, sent by Mr. Gray, Sandy, Beds.

Gardening Lectures at Worcester.—The City of Worcester Higher Education Committee have arranged for classes in horticulture for school teachers to be conducted by Mr. L. M. Marshall at the Victoria Institute, Worcester. Over eighty teachers have expressed their willingness to attend, and it has been found necessary to divide the classes. It is hoped to arrange for lectures to be given at a later hour for gardeners, allotment-holders and the general public.

FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

THE solving of readers' poultry problems is quite entertaining, and not so heart-breaking as some would have us believe. True, some funny questions come to hand for treatment, but they "spice" the whole and serve to break the monotony. As I write I have before me quite a pile of letters I have just answered by post, and at the top I find what at first looks like a conundrum. The correspondent asks, "Why has my Runner drake lost his curly tail?" And yet it happened to be the one needing the shortest reply—"Moulting."

Table Crosses.—My next correspondent wishes to know if she can profitably use a Dorking cockerel with her Rhode Island Red hens to produce well-fleshed table birds for next spring. In the first place, the Rhode Island Red has yellow legs and flesh, and the hens of this breed will not be suitable material for those who follow the fashion of white legs and flesh which rules in table poultry. The same, too, can be said of Wyandottes and Rocks. The Dorking is an excellent table fowl, but rather a slow grower, and it is wise to mate to Dorking hens an Old English Game or Buff Orpington cockerel. Old English Game males are splendid birds to head pens from which table poultry are desired, the hens mated to same being either Orpingtons, Faverolles or Sussex. Crosses between Orpingtons and Faverolles, Orpingtons and Sussex, and Faverolles and Sussex—no matter to which breed the male belongs—also carry my vote, and, if desired, pure-breds can be stocked. I have always had a soft spot for the Sussex—particularly the Light—whether for egg or table merits or a combination.

Praise for the Sussex.—Where the Sussex fowl is kept, one can always select straight from the run a cockerel that is ready for the table without a special fattening course. The same, too, can be said of the Orpington and the Faverolles; and if one is not prejudiced against yellow flesh, I can add the Rock, the Wyandotte and the Rhode Island Red. All make nice weights at an early age. In treating of table breeds it would be unfair to overlook the claims of La Bresse—France's premier table fowl—the Houdan and the Russian Orloff. All three are non-sitting or light breeds, and Houdan males are particularly useful for crossing purposes to produce table birds. If one is not especially breeding for table purposes, he or she may be well advised, perhaps, to stock the all-round pure-breds.

Value of Crossing.—Where the owner intends to mate up pens to produce table birds in particular, a cross may suit the case best. More so, too, if the poultry-keeper stocks two breeds which lend themselves to such cross-breeding. Where White Orpingtons and Light Sussex are kept, these two breeds cross well, no matter to which family the male belongs. White Orpington × Light Sussex males are quick growers and ready for the table at an early age, when they will be found to be very meaty and to carry sweet, juicy flesh. When one adopts such a cross, it invariably happens that he or she does not know how to continue the breeding in subsequent seasons. I will explain how the crosses can be maintained. Supposing the *first* season we mate a White Orpington male to Light Sussex females, the *second* year we must mate the progeny to a Light Sussex male. In the third year the progeny from the second season's mating must be headed by a White Orpington male, and in the fourth a Light Sussex male will be mated to the progeny of the third season, and so on.

Sex in Day-Olds.—Another querist wishes to know if it is possible to tell the sex in day-old chicks. It is rather early for this problem to arise, but I expect my correspondent is adopting all-the-year-round hatching or proposes to hatch out early broods to produce table birds. It needs an experienced eye to pick out the cockerels from the pullets, but it can be done. I am glad the querist said *day-olds*, as, peculiarly enough, one can tell better at a day old than when the chicks have been out three days. The young cockerels have round, fat heads then as compared with the slender heads of the young females. They have, too, short, thick necks and short, stoutly built legs. In the single-combed breeds the combs are noticeable more in the cockerels than in the females, and there are fewer "spikes" or serrations in the case of the former than in the latter. In the males there is quite a noticeable distance between the serrations. These distinguishing features are readily seen by the person used to handling a lot of chicks. The novice can, if he wishes to perfect his knowledge, make his choice, mark the chicks, and compare results later.

Fallen Fruit.—Here is another problem which arises almost weekly: "Will fowls come to harm in an orchard when the fruit is falling?" There is not the least doubt that poultry and fruit culture go nicely hand in hand, and I am glad to see the combination so much in evidence just now. Every orchard should have its quota of laying hens comfortably housed in intensive structures, so that the owner can reap both eggs and fruit—a harvest top and bottom. It is wise, however, to take precautions when fallen fruit is about, since hens having a surfeit of same are likely to come to harm. One owner will run his fowls in the orchard with "fallers" everywhere on the ground and not lose a hen. Another poultry-keeper will do the same but lose many birds from poisoning. I can only put it down to individuality of the hens. Some in each flock are likely to overfeed themselves on the fallen fruit; others will not touch the latter.

Symptoms of Poisoning.—One can readily detect the symptoms of poisoning brought on by a surfeit of fallen fruit. The ailing birds will become quite thin, as if they were wasting away, despite the amount of food eaten. In the majority of cases they do not lose their appetites, and the owner is, naturally, nonplussed at the loss of flesh. It is by far the best plan to collect all fallen fruit daily, so that the danger is removed. The fallen fruit can be given to the fowls in moderate quantities so long as it is mixed in the soft food after it has been cooked. Cooking removes the acids, and the liquor should be thrown away. The fruit, if well boiled, can be mashed up, or it can, when partly cooked, be passed through a mincing machine. There is just one other point those who run their fowls in the orchard should bear in mind. If the hens are underfed they will quickly fly up into the trees and help themselves to the fruit. Moral: Feed the birds well and regularly.

Question of Housing.—Mrs. C. writes to say that she has two acres of orchard and grassland, and is anxious to keep fowls for laying purposes only. She would prefer, however, to keep the houses in the orchard and only shut up the birds at night. I quite understand Mrs. C.'s view-point. She wishes to allow the layers free range and not keep them confined in any way. Perhaps she is thinking that the hens if confined would be sad and lonely. If so, she is wrong in her presumption. Given a roomy intensive house or light, spacious and well-littered scratching shed, the inmates will be quite happy and contented. In the winter the grass has no "body" in it and grub or natural life is absent, so why be so anxious to adopt free range where egg-production is the chief objective? I am not against free range in suitable weather during the winter, but, when bitter elements rule, the layers are safer in their snug "retreat" than outside.

Autumn Chills.—With maturing young stock one must be careful where free range is allowed *in toto*. Especially do I refer to the autumn, when the running in long, wet grass is likely to set up internal chills or lung trouble. Whenever the grass if long is wet, it is wise to confine the birds in the nice roomy intensive house or scratching shed which stands for my original ideal. I am not going to say that hens housed in small roosting houses of the usual type will not lay or will not thrive. I maintain, however, that the best results by way of winter egg-production accrue where the layers are controlled. Nor do I recommend total confinement throughout the winter. There will be days, however, when the weather is awful and quite unsuitable for hens to have free range.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street Strand, W.C. 2.*

ANSWERS TO CORRESPONDENTS

KITCHEN GARDEN.

PRICES OF SEED POTATOES (*H. G. C.*).—We have at present seen no Order dealing with the prices of seed Potatoes of the maincrop varieties. Early varieties of certain kinds have been ear-marked for wart-infested areas. The selling price of "ware" Potatoes must not be below £6 per ton nor above £6 10s.

FRUIT GARDEN.

APPLE SCAB (*J. H.*).—The Apples are attacked by the scab fungus, Fusicladium dentriticum, and as the attack has come quite late, it has done no more than discolour the skin to some extent. Treatment lies in removing all the dead and lying spurs and shoots during the winter pruning and any that show crack in the bark or skin. The trees should then be sprayed with Bordeaux mixture just before the buds burst and again just after the petals have fallen This treatment will generally keep the trees practically free from attack.

APPLE AND TOMATO CHUTNEY (*M. E. T.*).—Ingredients: One and a half pints of best vinegar, one dozen medium-sized green Apples, two Spanish Onions, one to two pounds of Tomatoes, three-quarters of a pound of brown sugar, two ounces of salt, half an ounce of Mustard seed, one ounce of Ginger (ground), six ounces of Sultanas, and half a teaspoonful of Cayenne pepper. Method: Peel and cut up the Apples and Onions, and quarter the Tomatoes. The Mustard seed may be left in or put in a bag. Boil until soft, say, slowly for two hours. Place in jars or bottles and cover when cold. It is a simply made medium chutney that costs very little.

STANDARD DOUBLE PINK PEACH TREE (*Poynings*).—This tree has fruited in many parts this year where it has never before fruited. We should be inclined to advise our correspondent to let well alone. The tree might resent being moved and the charm of fruit bearing sacrificed. If it were growing in richer soil, probably the wood would not ripen so well, and the chances of the tree fruiting would be so much the more lessened. We would suggest that the best means of recouping the tree's strength after the exhaustion of bearing a heavy crop of fruit would be to water it copiously with manure water from a stable yard on several occasions during autumn and winter, and to mulch the surface soil over its roots with short, well-rotted manure next April, laying it on 3 inches deep.

TREATMENT OF WALL FRUIT TREES IN AUTUMN (*J. D. H. S.-S.*).—If your trees are old and all the fruit is gathered, the best thing you can do now is to give the trees a copious irrigation of manure water at the roots. Never mind if we have had much rain lately; rain generally partly misses the soil near the wall. One must also remember that the soil here is poor, rendered so by the perpetual drain upon it by the growth of the trees and the crops they produce. Liquid manure in strong solution may be applied now and at intervals of a month during winter; the soil will then be richly charged with the best possible fertilisers for helping the trees and their crops next year. In the case of young trees there would be a danger of over-luxuriant growth if this plan were adopted; but not so with old trees. Do not top-dress or mulch the trees with manure now; the end of April is the best time to do this. The mulch then serves the purpose of keeping the surface roots moist by arresting evaporation. It also encourages the growth of new surface roots and feeds them at the same time, so nourishing the trees and their crops. Burn the leaves as they fall, so destroying the larvæ of many marauding pests.

ROSE GARDEN.

SAMPLE OF SOIL IN WHICH ROSES HAVE FAILED (*Lady Ardilaun*).—The soil is devoid of fibre and of itself quite unfitted to grow Roses satisfactorily. We suggest that half of it be taken out of the beds and good, turfy loam of a fairly heavy description be substituted and mixed with the remainder; add also the following: Basic slag, at the rate of 1lb. per square yard superficial, the same of bone-meal and the same of fresh lime and soot. Also dig in a generous quantity of well-decayed short manure.

ROSES WITH RED RUST (*C. B. P.*).—We do not think you need be alarmed by the red rust; it has been rather rife this year. We advise you to gather up all the foliage and burn it; also, if practicable, remove 1 inch or 2 inches of the surface soil and burn this as well. The spores rest in the ground, and if they can be destroyed during winter, you would to a large extent check the fungus. Next spring, as soon as pruned, spray the trees with Bordeaux mixture and keep on spraying at frequent intervals. Some good single and semi-single up-to-date Roses are Red Letter Day, Princess Mary, Ulster Gem, Isobel, Irish Fireflame, Cherry Page, Chrissie McKellar, Flame of Fire, Irish Elegance, Simplicity, Vanessa, Brilliant, Old Gold, Charlotte Klemm, Alexander Zarifi, Mlle. de la Valette, Cheerful, Georges Cain, Adrian Riverchon, Moonlight, Trier, Altaica, Bardou Job and Gottfried Keller.

THE GREENHOUSE.

CHRYSANTHEMUM LEAF-MINER (*E. C.*).—The leaves are attacked by the Chrysanthemum leaf-miner, the larva of a small two-winged fly, which has also probably attacked the Cineraria in the same way. They are in so bad a state that we fear little can be done with them. The grubs are, however, still in the leaves, and may with patience be killed by pinching, or be picked out with a needle. Sometimes spraying with a nicotine insecticide, such as Corry's Niquas, or with Katakilla proves an effective remedy for the trouble.

BEGONIA REX (*E. N. C.*).—This is one of the winter flowering section. In the case of leggy specimens cut back early in the New Year (February or March), when the cuttings should be put in, and immediately the old plants begin to break they should be repotted.

GREENHOUSE FLOWERS FOR CHRISTMAS (*Burton*).—It is now far too late to sow seeds of any plants that are needed to be in bloom at Christmas. Much the same may be said of bulbs, though perhaps Roman Hyacinths, if potted at once and placed in a greenhouse, removing them into a warmer structure when rooted, may be induced to flower by the time stated. You will therefore find it necessary to depend chiefly for your Christmas display upon the plants you find in the gardens where you are going. If things are in a neglected condition, a good deal may be done by tying them into shape, top-dressing where necessary, and by giving an occasional weak stimulant. If there are any Zonal Pelargoniums in pots, they may, if carefully attended to, flower at Christmas, provided a temperature of 50° to 60° is maintained. Another suggestion may be made, and that is, if Wallflowers are plentiful, there may be a few precocious ones that, if carefully lifted and potted, will in a greenhouse temperature flower by Christmas. The same may be said of Primroses and Forget-me-nots. When you have looked over the gardens and noted the plants available, you will be in a better position to know what subjects are likely to prove available for your purpose. When you have done this we shall be pleased to answer any further questions regarding the plants you find there. Books such as you require are "Orchids," by James O'Brien, 1s. 10d.; "Vines an Vine Culture," by A. F. Barron, 5s. 5d.; "The Book of the Peach," by H. W. Ward, 2s. 10d.; and "Roses," by H. R. Darlington, 2s. 11d. All of these may be obtained post free from the Publisher, 41, Wellington Street, Covent Garden. W.C.2.

MISCELLANEOUS.

NAMES OF FRUIT.—*C. H.*—1, Striped Beefing; 2, Wellington.——*J. M. H.*—Malster.——*E. R.*—1, probably Peasgood's Nonsuch; 2, Hawthornden; 3, Pear badly bruised, probably Doyenné du Comice; 4 Beurré Hardy; 5, General Todleben; 6, uncertain.——*J. H. T.*—1, Cox's Pomona; 2, probably Rival, but rather out of shape.——*J. W.*—1, Williams' Favourite; 2, Hawthornden; 3, Tower of Glamis; 4, Duke of Devonshire.——*H. S., Stone.*—1, Galloway Pippin; 3, New Hawthornden; 4, New Bess Pool; 5, Lord Burghley; 6, probably Beurré Diel; 7, Goff; 13, Lady Clapp. The rest are very poor specimens. We do not feel sure about them.——*J., D. Purley.*—1, Marie Louise; 2, too poor to name.

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Mme.Ed.Herriot,prawn red 10d.
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Scarlet Campion.	Blue Flax.
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Ethel Malcolm (ht),ivory w. 10d.
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Hugh Dickson(hp), crimson 8d.
J. B. Clarke (ht), crimson - 10d.
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PRINCIPLES THAT GOVERN POULTRY HOUSING

(Continued from October 6 issue.)

MY article in THE GARDEN of October 6 treated upon *nest-boxes*, setting out the pros and cons of the patterns in use. A few more words are necessary regarding the outside type of nest. The lid proper can be arranged in the front facing the operator, being hinged at the bottom to drop down and reveal the open nests. The majority of poultry-keepers use one continuous flap or lid to cover the whole series of nests. This is not advisable, as while the owner is attending to a bird in one nest, another bird may escape. The tendency would be to close the lid quickly to prevent escape, and this might seriously injure the layer if the lid fell on her. Besides, it is not advisable to excite layers, which would be the result if any that escaped had to be chased and caught. Where possible, arrange a separate lid to each nesting compartment.

Air and Sunshine.—It is surprising the number of poultry-keepers who deny the fowls fresh air and sunshine, even though these two essentials can be provided very cheaply. The discussion of these items brings us to the design of the roof and to whether the roof should slope from front to back, or *vice versa*. The advantages of a slope from front to back are many, chief among which is that fresh air and sunshine can be given free admission. I am here referring to the open-fronted intensive type of house. But there is the drawback in that the fowls have to roost at the back, where the space between floor and roof is smallest. This disadvantage must, therefore, be rectified by some means or other.

Slope of Roof.—Many make the mistake of allowing a deep drop in the roof from front to back, which only narrows down the roosting space in the rear. Take care, therefore, to arrange but a gentle slope, since the latter performs its duties if it allows the rain to run off the roof. In houses with long drops a few alterations must be carried out before they become ideal roosting places. The fresh air must be so admitted and the foul air released that there is a constant influx of the cool, sweet air to keep the whole on the move. If the foul air for want of a proper "outlet" ventilating arrangement becomes a solid mass in the rear of the structure where the fowls are roosting, the birds will come to harm. One good plan is to bore with brace and bit or a red-hot poker circular holes along the back of the structure near the roof and a few inches apart. Such apertures can be controlled from the outside by means of a hinged or sliding shutter if desired. Failing this, cut out a few narrow apertures along the back near the roof, cover with perforated zinc, and arrange sliding shutters to control the outgoing air.

Open Fronts.—In the case of open wire-netting fronts such as we find to intensive structures, it is well to plan their design carefully. The usual plan is to have matchboarding at the bottom, wire-netting at the top, and over the netting a fixed or hinged hood to keep out the driving rain. Such a front will admit fresh air *ad lib.*, but, unless holes are bored in the back, the foul air is in most cases "trapped" and there is not that free circulation of air which is desirable. I plan my fronts on rather different lines, allowing both fresh air to enter and foul air to escape *viâ* the front. To make this possible there must be the bottom matchboarding, and over this the netting and hood, and the "inlet" is allowed for. Now above the hood I arrange a long, narrow aperture directly under the roof, covering it with perforated zinc and fixing over it a small protecting hood. As the foul air rises to the highest point of the house, it has a chance to get away and the air is kept in motion.

Drop-Boards.—Many make the mistake of fixing the drop-boards right against the back wall of the house. This has its disadvantage, in that it "traps" the air and does not allow of a free current. We will suppose that the drop-board touches the back of the house. It stands to reason that the fresh air entering the structure finds its way under the board, and before it can rise it must push the foul air upwards. If the outlet ventilating arrangement is bad, the fresh air will remain stationary and will not perform its duties. If the foul air is properly leaving the structure, what happens then? The fresh air passes up the front of the drop-board, but instead of being inhaled by the birds on the perches it forces back the foul air on to the fowls. The latter will, therefore, be prevented from obtaining fresh air, or, at any rate, in proper quantities. The drop-board should, therefore, be arranged a little from the back of the house, and if a wide board is used it will protect the birds from any ground or "up" draught.

Control of Ventilators.—Quite a number of poultry-keepers are under the impression that to ventilate a house properly they must have *large* apertures, and if the latter are nice and open and allow air to enter *ad lib.*, they are working on the right lines. This is not so. In the first place, there must be both inlet and outlet ventilators, the latter being at the highest point of the house, as the foul air rises. It is essential, however, that the ventilators be under control, so that the outer elements and the season of the year may be taken into account. It is quite a simple matter to control the apertures. Wooden or glass shutters can be arranged to slide in grooves over the apertures, and these can be fixed either inside or outside the structure. The latter is preferable, as labour and time are saved, since they can be attended to without going into the house.

Study the Season.—I have already mentioned the advisability of studying the seasons as regards ventilating arrangements, and where the latter are controlled this is made the easier of accomplishment. In the summer ventilation is not so difficult a matter. On warm, muggy nights one can arrange a canvas-covered wire-netting door inside the ordinary door, so that the latter can be thrown open. On cold winter nights, however, a slow circulation of air is advisable. If too much fresh air is admitted and the outlets are large, the warm, foul air will be pushed out too quickly and the interior of the house will be icy cold throughout the night. A cold house is by no means desirable, since the atmosphere will cause the birds to lose unnecessary energy. And such energy is more profitably employed in contributing to the winter egg-basket, as you will agree. While in the summer we have to contend with warm, stuffy nights, in the winter we have to bear in mind the great length of time the birds are compelled to spend each night on the perches. We must, therefore, hit at a happy medium for the atmosphere in the interior of the roost.

Tempering the Air.—The ventilating arrangements should, too, be consistent with the number of birds accommodated in the house in question, and also the size of the structure. Long, narrow ventilators are much preferable to short, deep ones, and it is advisable in all cases to temper down the ingoing and outgoing air. This is readily accomplished if the apertures are covered with perforated zinc, muslin, or canvas. Summing up, then, the roof that slopes towards the back has in the intensive type of structure advantages over the one which slopes from back to front. Such a house is dark within, and the birds do not on that account have such long hours for exercising. In the ordinary type of house one has sometimes to adopt the slope from back to front in order to fit in with the surroundings, as, for instance, in a garden where it is desired to use an existing wall as the back. If the interior is dark, glass lights must be installed, whether "ground" or "roof" arrangements.

Avoid Dark Houses.—While, in order to encourage egg-production, the nest-boxes should be placed in a dark corner of the house; the interior of the latter should be nice and light for more reasons than one. It is quite an easy matter to make a dark house *light*, as will be shown in my next article in this series.

(To be continued.)

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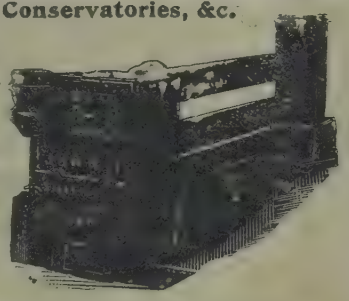

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SPECIAL ROSE NUMBER.

THE GARDEN

A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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THE GARDEN.

No. 2398.—Vol. LXXXI.] [November 3, 1917.

NOTES OF THE WEEK

We must not lose sight of the fact at this season that the time of greatest dearth in the vegetable garden is usually May and June. The Parsnips, Beet, Artichokes and Carrots of the winter store are then coming to an end; Leeks and even autumn-sown Beet and Carrots are nearly done; the Turnip and Swede tops are quickly passing, and fortunate is he who has planted a good breadth of Spinach Beet, which even such severe frosts as those of last year passed unscathed. In such a time as this it behoves every gardener to do his utmost to keep up home supplies, for even though there may be ample food for all in the country, the difficulties of transport are such that food shortage is quite likely to occur at any time, and no efforts ought to be spared by allotment holders and others to prepare for it.

Planting and Sowing.—All available Cabbages for spring use ought to be planted, and those who have more than they want should give to those who have none. Broad Beans may be sown any time up to the end of November to give earlier crops than the spring-sown ones. Onions sown early in the season for use in the green state are valuable, and Spinach, if the seed can be procured, sown early for quick supplies should not be neglected. Early Peas, too, may be expected to yield a crop by the second week in June if sown in the middle or end of January. None of these things is possible unless the ground work is well forward before Christmas, and every opportunity of double digging, &c., in preparation for the early sowing of suitable seeds should be taken. Potatoes for planting next season should also be obtained as soon as possible, placed in boxes in a light, frost-free place, and sprouted before they are planted.

An Interesting Collection of Plants.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Bowles showed the fruit of Lonicera Hildebrandtii from a cold greenhouse at Earlham—a very large fruit for a member of this genus, measuring over an inch in diameter; Rhodostachys argentina, with stalked heads of flowers; Akebia lobata fruit, from Mr. Howard Baker's garden near Bristol; fruit of Actinidia chinensis from Mr. P. D. Williams' garden at Lanarth, Cornwall; fruits of the deep-flowered form of Cydonia Maulei, to draw attention to their strong and pleasant perfume; fruits of Arum italicum, with the foliage, appearing this year unusually early; Arum hygrophyllus, from the Holy Land; and that of a robust form of Arum Dracunculus, all from his garden, whence also came ripe fruits of the double red Peach, which has from two to four ovaries and which bears twin fruits; of the purple-leaved Peach, of the variegated form of Cornus Mas, and of the yellow-fruited Yew.

Stamping Out Potato Disease.—Despite the many and repeated warnings that have been given and much advice that has been tendered in a friendly sort of way, there are obviously many workers who pay no heed and are quite indifferent as to what may follow. Hence so desirable a consummation as is indicated would appear as far off as ever. How many times allotment holders and cottagers have been urged to burn all diseased Potato haulm and take equally effective measures for the disposal of diseased tubers it would hardly be possible to say. Some, to their credit be it said, have done all that is possible; others, entirely indifferent, still permit the diseased tubers and haulm to strew the ground, regardless of results, till the last vestiges of the plague are apparently lost to sight. But it is not at an end. Rather by corrupting and contaminating the soil is it storing up trouble for the future—trouble which does not, unfortunately, begin and end with those whose neglect of precautionary measures have brought it into being.

Rose Minnehaha.—This Wichuraiana was introduced by Walsh in 1905, and is still one of the best of the section. In growth it is vigorous, making strong shoots, which flower abundantly. The raceme-like flower-trusses are 18 inches long, with individually large blooms each set apart, so that a most handsome flower-truss is obtained. The colour is dark rose, the foliage having the true Wichuraiana deep green tint. The specimen shown in the illustration was worked on a half-standard Briar which is an excellent method where the plants are required among dwarf Roses, as in this instance.

PILLAR ROSE MINNEHAHA.

Autumn Tints in the Wild Garden.—Seldom has the woodland garden been such a blaze of colour as it is this autumn. The bold crimson and bronze of Azaleas and rich wine red of Guelder Rose and Ribes aureum have rarely indeed been so strikingly lovely among the pale yellows and duns of leaning Bracken and the chequered leaf-fall of Oak and Elm. Though the hardy Ferns of waterside and glen are still green, their fronds are interlaced with the gold of dying Spiræas, and the round leaves of Galax aphylla are flushed with a fiery crimson. The sinking Pæonies are tinged with the hectic of their passing; Rugosa Roses are aflame with yellow leaf and crimson fruit; Briar and Bramble are aglow with the embers of the dying sun. And it is at this season that such evergreens as Cypress, Holly, Ivy, Bay and Fir make so pleasing and cooling a contrast in tone to the burning hectic of the departing year.

Nierembergia rivularis.—This is an indispensable subject for a cool, moist, rather stiff soil in the rock garden, where it can at the same time get plenty of sunshine. Although perfectly hardy, many people fail to induce this plant to flower freely, but this defect can often be remedied by sinking some stones around the roots and so confining the latter to a more limited run. The blossoms are very large, pearly white and cup-shaped. Being so much bigger than the leaves, the effect is curious as well as beautiful. They are, or should be, produced in succession throughout the late summer and well into September and October.

The Winter Cherry (Physalis Alkekengii) is an autumn favourite in many an old garden. It is now at its best, the 18-inch stems being hung with their glowing "Chinese lanterns" of orange red. It is one of the Potato genus, and is fond of a warm, dry soil, preferably close up against a south wall. To those who appreciate such things, the richly tinted calyces make a fine winter decoration. The Cherry-like fruits are quite edible, being wholesome and of a pleasant flavour. The Japanese variety of the above, P. Franchetii, is a noble plant, taller in stature than the old kind, and bearing calyces often 3 inches long and more than twice as much in circumference.

A Double-flowered Eschscholzia.—A double-flowered Eschscholzia has been in cultivation for some years. True, it is a variety of E. californica with orange blossoms, not the white-flowered form referred to by "T. A. W.," page 455. Whether the flowers of the new white kind will prove to be as double as the illustration remains to be proved. The double orange form is quoted at a cheap rate in one of the last seed catalogues of the house of Veitch—that is, for the year 1911. It is curious to note that the word is generally, though erroneously (at least, according to the Kew authorities), spelt "Eschscholtzia," the letter "t" therein being superfluous.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

THE LOSS OF THE CLEMATIS IN GARDENS.

MR. A. G. JACKMAN has a paper in the Journal of the Royal Horticultural Society for September last on "Some Fallacies Regarding the Clematis," in which he does not touch on the absence of the plant in most gardens in any healthy way, and these gardens often among the best as to site, soil and means. Apart from the loss to the gardens of our islands, it is a great fallacy to suppose that a mode of propagating a plant that ensures its death can do anything but injury to a trade that permits it.

I am now writing a paper giving my trials of the Clematis, now extending well over a quarter of a century, which will make the matter clear, and I send this note now on a statement by Mr. Jackman that the scion absorbs or in some way overcomes the root of the wild Clematis on which it is grafted; as I know from experience, to its certain injury. For years past many plants that have come here from nurseries have been examined on arrival and the balls of soil washed away. They always showed clearly two sets of roots, often quite distinct even in colour—one, the lower, a wig of dark roots; the other, the root of the good variety, trying to free itself, sometimes with vigour, sometimes feebly. In every case we cut away the wig of black roots of the stock—surgery needing care and risk to the plant; but I will not have the handsome plants on any but their natural roots, a right they surely have. Anyone who gets a batch of plants from a nursery may prove for himself there are two sets of roots—one, of the stock of the most vigorous of our wild tree climber; the other, that of a plant of the isles or hills of Japan. The two plants so used to nurture one fragile plant are from different climates, and I think each has its own time of the sap rising in the spring. Where is the need for such a practice? There is not a word in Mr. Jackman's paper saying why it is necessary to put two sets of roots to a fragile plant where there is a natural way of increasing it. It is a mere trade practice, as harmful in its way as the use of the Manetti stock for the Rose—a practice that has paralysed the growth of millions of beautiful Tea and other Roses; or the use of a European Plum as a stock for the Apricot, which has led to disease and eventual loss in our gardens for some hundreds of years.

Anyone who takes a broad view of the question will see that it is not merely a matter of a way of increase in nurseries, but one for the buyer of the plants and his gardener who has to care for them. The public who support the trade in plants are entitled to the first consideration. And when they know the truth it is not likely they will endure the devastation of their gardens from the use of wrong and wholly needless ways of increase of the most beautiful hardy climber ever brought to our isles.—W. ROBINSON, *Gravetye, Sussex.*

CLEMATIS "DIE-BACK."

WITH reference to the note on Clematis "die-back," issue October 20, it undoubtedly takes place to a greater extent during the hot, dry summer months than at any other period of the year, as I mentioned in the lecture I gave before the Royal Horticultural Society, the heat being apparently conducive to the spread of the parasite, a fungus belonging to the genus Ascocyta. It consequently follows that in a cool and comparatively sunless summer the number of Clematises attacked is appreciably less, even those which had previously suffered from it in many cases escaping altogether. I have for a long time advocated the planting of Clematises in an easterly or westerly aspect, in preference to full south, so that they may escape the full force of the sun during the hottest time of the day. I have also noticed they apparently derive benefit from being planted in close proximity to other plants, where the foliage of the latter acts as a partial shade, more particularly to the stem and roots of the Clematis, thus bearing out your correspondent's experience that those planted under the shade of hedges of Rhododendrons "flourish enormously."—A. G. JACKMAN.

FORMAL AND INFORMAL GARDENS.

MAY I offer for consideration these two definitions? A "formal" garden is one in which the lines of construction are more obvious than beauty of growth. An "informal" garden is one in which beauty of growth is more obvious than lines of construction. The lines are there in both cases, or it would not be a "garden," but Nature un-humanised. A garden planned in connection with the house, or any other design, is "formal" so long as the plants are kept subservient to the lines; but so soon as the plants are allowed to grow more freely, these lines become partly hidden and considerably softened—and one is conscious most of the plants themselves. Clear lines and soft masses together make a garden, and which of the two predominates makes it formal or informal. Of course, there is a point between, where one balances the other. I think this is often seen in a Rose garden. A parallel is to be found among the trees. The earliest trees show their lines clearly and one scarcely thinks of their leaves, the Christmas Tree being an example; but the later, or "informal" trees cover and soften their lines with such rounded masses that one thinks *most* of their wealth of leafage, the Oak being an example. Nevertheless, the lines *are* there. The mere piling of mass on mass does not make a tree, but rather a shrub; every tree has clear lines of structure beneath its mass of leaves. May I say, in conclusion, how much I enjoyed the Rev. G. H. Engleheart's article on the subject.—L. A. LOUDEN.

THE QUICK PECULIAR QUINCE.

CHRISTOPHER SMART wrote of the "quick peculiar Quince" in the "Song to David," most princely of devout poems, and chose his epithets aptly. This year Quinces have done nobly, and many trees have borne more heavily than ever before. They are preserved less than their subtle flavour deserves. Some connoisseurs judge a man's taste by whether he shows a due devotion to Quince cheese; so here is a treatment for 12lb.: Cut into thin slices, cover with water, boil to a mush, and strain through a jelly bag until three pints of juice are yielded. To the juice add 2lb. of sugar, and be rewarded, after slow boiling for an hour, with 3lb. of jelly. Rub the remaining and still juicy mush through a fine wire sieve, which will give about 13lb. of smooth pulp. Add 11oz. of sugar to the pound, and boil strenuously for two hours, stirring manfully. This will give 17lb. of cheese. Ten ounces of sugar to the pound is enough and even better for those who like the "quick" flavour more pronounced. Twenty pounds of such delectable conserves from 12lb. of fruit and rather less than 11lb. of sugar is good hunting, but the cheese-making is a strenuous business.—L. W.

THE GOLDEN PIPPINS.

THE great fame of the Golden Pippin, an Apple known in Evelyn's day, led to a large number of seedlings being raised from it, just as at the present time Cox's Orange Pippin is a favourite starting-point for breeders. Many of these seedlings are now almost lost, and I have been for years on the look-out for such as might still exist in old gardens. I was therefore greatly interested to receive from the Editor a box containing two varieties from Mr. Hunnybun of Godmanchester. One of these, the Pine Golden Pippin, is one of the most delicious Apples I have tasted, and one wonders why so excellent a fruit has been so nearly forgotten. Of its origin little seems to be known before it was sent to the Chiswick Gardens from Hawick, N.B. A coloured figure of it may be seen in the Herefordshire Pomona, but it gives a poor idea of its size and shape. The other variety is, I think, very probably Hughes' Golden Pippin, but my own tree of this is yet small, and I cannot pretend to identify it with certainty. The original Golden Pippin so tickled the palate of Catherine the Great of Russia that she had the fruits sent from England, each one wrapped in silver paper. My own tree has fruited well with me this year, and the Summer Golden Pippin and its later brother so often confused with it—the Yellow Ingestre, are still found in gardens. But there are many others—Franklins, Autumn Golden Pippin, Dredges, Dobb's Kernel, &c.—which I hope some day to find for my collection. Can any of your readers help me?—E. A. BUNYARD.

HEAVY-CROPPING BLACKBERRIES.

I HAVE read Mr. J. C. Varty-Smith's article on "Native Blackberries," and in reply I say, Why worry about them while the American Cut-leaved Blackberry and the Himalayan Giant Blackberry are available? In these days we need the greatest return possible from all food-producing things we plant, and these aliens, in my opinion, bear a greater weight of fruit than any native Blackberry that I have seen, while the fruit is more luscious and not so seedy. Will your correspondent satisfy himself about the Himalayan Giant by enquiring of the courteous Superintendent at Wisley what he thinks of it? There is no doubt about its hardiness, as it stood 34° of frost here last winter, and bore an immense crop of fruit this summer. Surely it would be better to treat Blackberries as we do Loganberries and Raspberries, and cut out the old wood directly it has fruited so as to throw the strength of the plant into the new growths, and thus enable them to be tied into place, and not to leave this important operation over till February or March as advocated by your correspondent.—B., *Weybridge.*

A HEDGE OF ROSE MOONLIGHT.

IF any of your readers should be thinking of making a Rose hedge of, say, 4 feet to 5 feet high this autumn, I can strongly recommend the Hybrid Musk Moonlight. I planted a few plants last autumn against a low fence, and they have all made very good growth indeed and flowered continuously throughout the summer in large clusters of most attractive and dainty blooms of a silvery white colour about the size of half-a-crown. At the present moment there is on one plant a single spray with over eighty blooms or buds just coming out, and the effect is charming. As a companion to Moonlight the Hybrid Musk Danäe makes a contrast with its soft yellow blooms, and this also flowers throughout the year. What more could one expect from any Rose? With me both appear mildew-proof.—GERALD S. MARTYN, *Rock Cottage, Upton Park, Chester.*

HEAVY CROPPING OF FRUIT TREES.

FROM one cause or another (perhaps the hard winter) all fruit-bearing trees seem this autumn to have made a special effort to produce an unusually heavy crop. I have in my garden an interesting example of this special fecundity in the shape of a beautiful double pink flowering Peach. It is not, I understand, commonly expected to bear fruit in this country, but a dish of eleven Peaches recently gathered from it testifies to its enthusiasm, and, although they could not, of course, compare with the best, they were fairly good in texture and flavour.—H. C. STEWART, *Tonbridge.*

ST. ANNE'S-ON-SEA.

AS a rule, gardening folk do not find much to interest them in the public gardens at the average seaside resort, but an exception must be made in favour of this charming place. On the front there is a well-planned water garden with a refreshing waterfall, and winding, sheltered walks that, in the hands of a capable gardener, offer possibilities of beauty galore. The stream is only a shallow one, but is quite safe for children to play near, and I was heartily amused, when passing the pool on which the children swim their boats, to hear a "flapper" remark to her mother, "This is the pool Tommy fell into"! In these same gardens is a memorial that reads as follows: "This monument was erected by public subscription in memory of William Johnson, *coxswain;* Charles Tims, *sub-coxswain;* Oliver Hodson, *bowman;* and ten of the crew of St. Anne's Lifeboat, who lost their lives in a gallant attempt to rescue the crew of the German barque *Mexico*, wrecked off Southport on the night of the 9th of December, 1886." *O tempora! O mores!* But by far the most charming spot is the Ashton Gardens, presented to the town by Lord Ashton in 1914. Here is a spacious and well-conceived rock garden, sadly lacking, however, the discriminating eye and nimble finger of a Bowles to give it an air of individuality. The paved Rose garden is a very restful spot, surrounded by low sunk walls; the beds filled with many of the best Tea and Hybrid Tea Roses. Alas! due to the cold, wet autumn they were almost flowerless, and to reach a splash of colour we had to visit the beds of Begonias and Antirrhinums, which were a really gorgeous picture. Altogether a delightful spot, and well cared for, despite the shortness of staff engendered by the war, and I can thoroughly commend St. Anne's-on-Sea to those gardeners who are in need of a breezy and healthy spot, and where clean, wide-spreading sands are a paradise for children.—ARTHUR R. GOODWIN.

BOTANISTS AND COLOURS OF FLOWERS.

IF no one else takes up the cudgels in defence of the memory of Sir Joseph Hooker I must do so, for among all my books none has been more constantly in hand than the copy of "Bentham and Hooker" which he gave me in 1887. To describe the far-travelled collector and author of the vivid Himalayan journals as an indoor botanist is surely not only short of generous, but wide of fact. In the passage quoted on page 529 from Mr. H. [illegible] Pneumonanthe is mentioned as one of the plants Sir Joseph described from a herbarium specimen "and could not have seen the living plant." Why, Sir, when I told Sir Joseph that I had never seen this Gentian as a wild plant in England, he said that if I paid him a visit at Sunningdale he would show it to me growing wild near his own house. I freely admit that the definition of colour in flowers is the reverse of satisfactory, but in this matter horticulturists are fully as untrustworthy as botanists. Nor do I see much chance of improvement, colour being both subjective and relative—subjective inasmuch as colour is a sensation on the rods and cones of the retina caused by different parts of the light-ray, and unless these rods and cones were of uniform sensibility in every individual (which it is demonstrable that they are not) the sensation experienced, and therefore the description given, by different individuals must vary. There is, indeed, no such thing as objective colour, any more than there is objective sweetness, saltness, or sourness. But perhaps what tends even more to render colours so elusive of definition is that they are relative; that is, the sensation caused by rays of a certain colour reflected from the surface of one object is modified and altered by rays of a different colour reflected from adjacent objects. To cite an example now before me. The contrast of the conspicuous orange stigma of Crocus speciosus with the hue of the corolla gives it the appearance of a blue flower as it grows in the border, but when closely examined the segments of the blossom give the sensation of purple. Therefore, to arrive at a definition of the colour sensation produced by any flower as accurately as the colour terms of any language will permit, the flower must be isolated on a black or neutral-tinted background. Seeing that nobody complains of Homer describing wine as black, and the sea as wine-coloured, botanists may claim similar indulgence for having failed to define what is practically indefinable.—HERBERT MAXWELL, in *Gardening Illustrated.*

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RED ROSES IN 1917

"Summer is gone—with all its Roses."
—CHRISTINA ROSSETTI.

"SUMMER is [alas!] gone," and with it the glory of the Rose season; yet autumn, too, brings us Roses, and gives us also more leisure to think of the Roses of the past summer, and to consider which of our old favourites or our latest experiments have come up to our expectations, and which have disappointed our too sanguine hopes. After a long winter, lasting on to the end of April, we had a spell of fine weather through May and June, with the result that the early summer Roses were, for the most part, more than usually lovely. But there were some exceptions, and it has been interesting to notice the effect of the warmth and sunshine of June on the colouring of red Roses, which in the case of many of the Hybrid Teas was very disappointing.

Richmond, usually the loveliest of red Roses in the latter half of June and early July, both as to shape and colour, has this year scarcely made a flower of any individual value. We have three groups of this variety in different parts of the garden, but in each position the result has been the same—a quantity of poor-shaped, indifferently coloured blooms. The second blooming of Richmond is always liable to consist of these poor flowers; but very often in September, when the cooler weather comes, the flowers again improve. This year, in spite of the cool and wet August, this has not been the case.

Dora van Tets, which in the cool season of 1916 gave us some brilliantly hued flowers which lasted into October, has in 1917 produced none of any particular merit. Liberty also has been sparing of its dusky crimson blooms, and a bed of H. E. Richardson has scarcely bloomed at all. This last, however, is not to be recommended as a bedding Rose, for it is apt to put up long shoots, many of which are flowerless.

The red Hybrid Teas which have done well with us this summer are General Macarthur (which has been of fairly good colouring and is always worth growing for its vigour and its

A CORNER OF RED ROSES.

delicious fragrance), Mrs. Edward Powell and Red Letter Day. Mrs. Edward Powell is a delightful bedding Rose, always in bloom. Its large, bright red flowers, contrasting charmingly with the dark metallic foliage, are borne on very stout stems and hold themselves proudly erect. Red Letter Day is a newer Rose, and it is the first year we have given it a bed to itself, an honour only accorded to the varieties of greatest promise. It has quite justified our choice, for all through the summer this bed has made a brilliant patch of colour; and though the flowers are almost single, the petals do not fall quickly, and they keep the real red colour to the end. Just now, however—in the latter half of October—the flowers of Red Letter Day are few and far between, whereas Mrs. Edward Powell blooms freely right through October. Edward Mawley was good in June, but it is too susceptible to black spot to be a good autumnal variety.

We do not grow a great many of the old Hybrid Perpetuals, but have a group of Victor Hugo chiefly for the sake of the lovely flowers we generally get from them in the beginning of August. This year, however, when the red Hybrid Teas were on the whole not coming up to our expectations, Victor Hugo surpassed itself, and in the middle of June burst forth into its incomparable crimson scarlet blooms. The reason for this is easier to guess at than the comparative failure of the dark Hybrid Teas. The nights of May and early June are often very cold, with the result that the somewhat slow-growing buds of the Hybrid Perpetuals get nipped and the flowers come a bad shape. The quicker-opening flowers of the Hybrid Teas seem less affected by the cold.

Of the newer Hybrid Teas, Augustus Hartman has here been the most attractive. It is free-flowering and vigorous. Each bloom comes a good shape and a very beautiful colour—bright scarlet red with an overlaying of cerise. Unfortunately, this Rose has scarcely any scent. Hoosier Beauty, on the other hand, is delightfully fragrant, but not very vigorous. The flowers are a good crimson, but the flower-stalks are weak, and consequently have the serious defect for a bedding Rose of hanging their heads. Grown as maidens the stems appear to be much stronger. National Emblem, a good-shaped Rose of fine colour and with a delicious scent, is also weak in the stalk.

An old Hybrid Tea, Laurent Carle, with full, rather heavy, claret crimson flowers, has an excellent habit, and is well worth growing for its autumn blooms. They are very fragrant, and are abundantly produced on smooth, stout stems.

Among climbers, the one I noticed as being specially fine this year was the old Crimson Rambler. The stems were less mildewed than usual, and the flowers were of a decidedly brighter crimson. Excelsa and Hiawatha are always good. Diabolo, which as a rule flowers early, was quite late with us this year, and did not bloom nearly so freely as it usually does.

Florence Haswell Veitch, a good pillar Rose of dark crimson hue and delightful fragrance, has bloomed moderately well, and Ards Pillar is still (in mid-October) putting out some well-shaped crimson flowers.

All the Chinas have bloomed well, the spells of fine weather having synchronised with their early flowering in May and their late flowering in September. Charlotte Klemm and Cramoisie Supérieure growing together made a very bright red clump in June. The old Princesse de Sagan has been flowering freely all the summer through, and even at the end of September was covered with its deep blood red blooms.

The most surprising thing I have seen in the Rose garden this season has been the second blooming of that pretty shrub Rosa rubella, a hybrid from R. alpina. It usually blooms a little in the autumn, but this year in late September its branches were wreathed with its charming crimson lake single flowers, although there were the berries to tell of its earlier blooming.

And what a wonderful season it is for Rose hips! The hedges and bushes of the Rugosas glow with brilliant red berries, and the bushes of Fedtschenkoana, lucida and Fendleri are all brightened up by their scarlet fruits.

Another crimson effect is given in the Rose garden by the shining of the sun through the translucent thorns on the new growths of Rosa sericea pteracantha. This Rose, from the Chinese slopes of the Himalayas, is pretty in May when covered with its pure white, four-petalled flowers,

REINE BLANCHE OR HEBE'S LIP.

but its chief interest lies in these wonderful coral red thorns of autumn.

In October and November Rosa nitida gives the last crimson colouring of the year in the Rose garden, when, besides the brightness of its round red berries and numerous prickles, the leaves and stems turn to a vivid scarlet. WHITE LADY.

THE GARLAND ROSE AT MUNSTEAD WOOD.

SOME GARDEN ROSES

By GERTRUDE JEKYLL, V.M.H.

THERE is about the old garden Roses that delightful quality of simple charm that is never felt in the same degree when contemplating the big beauties of show and nursery. One is thankful to have these, and glad to think with gratitude of the labours of raisers and growers, but one admires and passes by. But in the case of the older favourites there is a longer pause, a more deliberate examination, a more heartfelt enjoyment of their simple beauty. One of these arresting flowers is the old Reine Blanche, a nearly single flower of warm white colouring. It opens creamy white and the buds have crimson splashes, which in the expanded flower show as interrupted picotee edges. Evidently a near relation of the Damasks, it was rediscovered some twenty-five years ago and shown at one of the meetings of the Royal Horticultural Society as Hebe's Lip.

Though of late years there have been so many notable additions to the climbing Roses, there is none that takes the place, either for beauty or freedom, of the Garland Rose, one of the old Ayrshires. Every year it blooms with the same profusion. The flowers are in close clusters, opening faintly flesh pink and turning to a warm white. For many uses there is no better Rose—for arbour or pergola, to train as flowery garlands, to cover any rough shed or unsightly building

or to let alone to take its own shape as a natural fountain.

The third illustration shows a charming rambling Rose raised by an amateur—the late Mrs. Alfred Russel Wallace, the wife of the renowned scientist. It is one of the prettiest of pillar Roses. The flowers are fully double and of a good pink colour. Besides its general good appearance it has the great merit of lasting longer than the greater number of the ramblers. It is of multiflora parentage.

THE WILD ROSES. I

THE WILD ROSES ARE AMONG THE LOVELIEST OF NATURE'S WILDINGS.

By R. A. Rolfe, A.L.S.

THE very mention of wild Roses serves to recall some sunny bank or roadside during leafy June garlanded with pink or white and fragrant blossoms, or it may be of some tall hedgebank during early autumn bespangled with scarlet hips glittering in the warm sunshine; both equally beautiful. And such scenes are familiar on the neighbouring Continent, the steppes of Central Asia, in China and Japan, and on the other side of the Atlantic. In short, the wild Roses are very widely distributed through the Northern Hemisphere, and each great region possesses its own particular group of species. Wherever found, they possess characters and beauties of their own, and a considerable number of them have been introduced to embellish our gardens and shrubberies, which they do most effectively when planted in suitable positions. But whether seen under native conditions or in our gardens at home, the wild Roses are always attractive; their flowers and fruit, their foliage, armature and habit of growth, also the wide range of diversity between the species of the different groups, all serve to invest them with special interest. During recent years several additional kinds have been introduced from that great source of novelties, Northern China, and the interest in the subject seems to be ever widening. It was doubtless with these considerations in mind that the Editor invited me to give a series of articles on the best of the wild Roses—those which have secured a more or less permanent position in our gardens and shrubberies. And if space permits, it may be possible to mention a few others, for even our garden Roses have their wild prototypes. At all events, there is no lack of materials; the difficulty will rather lie in its selection and arrangement. The chief aim, however, will be to present the species under their several characters, with a few details of their origin and history. Some very distinctive characters among the Roses are found in the fruits, which in some cases possess a high decorative value; and as these are the special productions of late summer and autumn, a few words about them may serve as a seasonable introduction to the subject. If there is one character more than another which separates the wild Roses from their favoured cousins of the garden, it is that of producing fruit in abundance. Here the garden Roses have lost something, and during the autumn, at least, the interest is largely transferred to the wild collection, some of the bushes then being literally covered with masses of scarlet hips, our own familiar Dog Rose among the number. The wild Roses of the Kew collection have made a brilliant display this year, among the first to change colour being the Chinese Rose omeiensis, a comparatively recent introduction of the R. sericea group. Several bushes have fruited very profusely, and the hips, which include both orange scarlet and blood red varieties, cluster among the Fern-like foliage along the branches, and form most graceful objects. After remaining for a considerable time on the plant, they fall off while still quite fresh, and so profuse has been the crop that the ground beneath the bushes was completely littered with them. The Himalayan R. sericea has much of the same character, but is a larger bush with fewer leaflets. The majority of the Roses have scarlet hips, but in the R. spinosissima group they are of a shining purple black, ultimately nearly jet black, and these have also fruited profusely. R. spinosissima is the well-known Scotch Rose, and there are many varieties, differing much in the colour of the flowers, though in fruit the distinctions are hardly perceptible, except for some differences in size and shape. The Scotch Rose has geographical representatives elsewhere, R. myriacantha in the Mediterranean region and R. altaica in Central Asia, and these are often regarded as varieties of R. spinosissima; but at the very least they are geographical subspecies, the former markedly different in armature, and the latter with both flowers and fruit of quite double the size. R. altaica also has fruited very freely at Kew. Then we have the yellow-flowered R. hispida, a distinct plant of unknown origin, and the so-called R. spinosissima lutea, probably a hybrid with R. lutea, and these also have black fruits, which have been produced freely. The Chinese R. Hugonis has most affinities with this group, though the fruits remain crimson for a considerable time, ultimately becoming purple black.

(*To be continued.*)

RAISED BY THE LATE MRS. ALFRED RUSSEL WALLACE.

RIVERS AND ROSES

The changes of time are strikingly illustrated in the activities of the well-known firm of Rivers of Sawbridgeworth. To the present generation of gardeners it is known on account of its fruit, whereas eighty years ago it was certainly the leading house for Roses and known as well in the New World as in the Old. The "Rose Amateurs' Guide," by T. Rivers, was the forerunner of Paul's "Rose Garden." The first British seedling raiser whose productions could be compared to the Laffays and Viberts of France was Rivers. There was a time in the thirties of last century when "the most useful catalogue of Roses, published either in France or in England," was the one that had its genesis at Sawbridgeworth. It was of curious shape and build—one large imperial folio sheet, so that it could be sent as a single letter by post. T. Rivers was not only a rosarian; he was a prophet as well. In his notes on Noisette Roses he says: "This division, with the Perpetual Roses, will ultimately be the ornament of every British garden."

ROSES DOROTHY PERKINS AND LADY GAY

There is not the slightest doubt that there is a distinctness in the two varieties noted; but whether both are necessary, that is a question for individuals. Personally, I would not be without them both. Lady Gay is deeper in colour than Dorothy Perkins. The former is cherry pink, while the latter is a softer tint of pink. The blooms, too, in Lady Gay are larger and set wider apart on the panicles. The habit of growth, too, is more vigorous; but I do not think it flowers in such profusion as Dorothy Perkins, which is perhaps the most popular Rose in cultivation.

E. M

OXTED PLACE AND GARDENS

THE HOME OF A NOTED ROSE-GROWER.

IT was in late summer, long after Roses were past their best, when we paid a visit to Mr. Herbert Wettern's garden at Oxted Place in Surrey. The garden is new to Mr. Wettern and, let us hasten to add, to Mrs. Wettern, who is equally keen; and where, may we ask, would the garden be without her aid and constant attention? But Oxted Place is not new; it is, in fact, one of the oldest places in the neighbourhood, and was at one time the Rectory, although a few miles from the village and its grand old church; and we are left to picture the Rector of bygone years making his daily rounds on horseback, for such, we believe, was the case.

The house and grounds are beautifully situated, and command magnificent views of quiet English scenery; one may safely trust a Rector for choosing a good site.

The front terrace looks out upon a spacious lawn with a water garden at the far end, where grow Water Lilies in variety, with Gunnera, Pampas Grass and Torch Lilies along the water's edge. Beyond the water garden the eye is carried to stately Oaks, between which glimpses of the Kent and Sussex hills are seen. To the right of the lawn is a high cliff rising well above the house. This is clothed with Gorse, Heather, Rhododendrons and Cytisuses. A little stream runs down the cliff and through the garden, the banks of which are planted with Ferns, with Japanese Anemones and Montbretias above.

The terrace wall (see Fig. 1) is built as a ha-ha wall, and in no way impedes the view from the terrace. The outer branches of a fine Cedar tree are seen on the right of the illustration, and the branches have given protection to a Banana tree, which has safely passed through the severe winter of this year in the open. On the terrace wall is seen a magnificent plant of Rose Lady Roberts, grown as a climber, with its main stem nearly 3 inches in diameter, a plant which would gladden the heart of Mr. Frank Cant, its producer. A flight of stone steps (Fig. 2) moss-grown and mellowed with age, leads up to the terrace, and Wichuraiana Roses fall gracefully over the stone wall. The mention of Wichuraianas calls to mind the delightful effect made by the pairs of weeping Wichuraianas along the drive to signalise the approach to a place where Roses live not only in the gardens, but also in the hearts of those who grow them.

An archway of American Pillar and a long Rose walk of Blush Rambler mark the approach to the new Rose garden. Each Rose is given a bed to itself. Here we see Mme. Leon Pain, Lady Hillingdon, Mrs. Tate, Mrs. H. Stevens and L. C. Breslau. A few plants of Cupressus erecta are well chosen to relieve the flatness of the Rose-beds, especially in springtime. At the north end of the garden are beds of Edu Meyer, Mme. Pernet-Ducher, Mrs. Pearson, Major Peirson, Mme. Ravary and Mme. Jules Bouché. To the south are beds of Caroline Testout, Mme. Edouard Herriot, Cherry Page and Willowmere; while to the west we see Butterfly, Pink Pearl and Cupid. But the greatest of all these, in the opinion of Mr. Wettern, is M. West—that is, as an all-round Rose for bedding and cutting. It has beautifully formed buds and blooms, and it is a bed to which the owners come and cut again as often as they will.

The absence of red Roses will be noticed in the foregoing beds. These have a garden to themselves nearer to the house, and the garden of red Roses is a pleasing feature of this delightful place. There are seventeen beds, and once again each Rose has a bed to itself. Only perpetual-flowering Roses are admitted, and so, for example, Liberty and Leslie Holland have had to be discarded. The most satisfactory of them are Red Letter Day, General Macarthur, Warrior, Lieutenant Chauré and Ecarlate.

Among exhibitors of Roses, Mr. Herbert Wettern is looked upon as *the* coming man. In 1915 and again in 1916 he won the National Rose Society's Amateur Championship Trophy, which he still holds. This is the prize for the large class for thirty-six distinct varieties. In the same years he was successful in winning the Tate Memorial Cup for decorative Roses and the class for twenty-four varieties. His successes at the Leamington Red Cross Show in 1915 included the Jubilee Challenge Trophy. The summer show of the National Rose Society was abandoned this year; but we have reason to believe that a show may be held next year, in which case no one will welcome keen competition for the amateur championship more than the present holder. The exhibition Roses at Oxted Place are grown in two separate places, one for half-standards only—a sheltered corner where Teas look like doing well—the other devoted to dwarf maidens on some vigorous soil encroaching on the orchard. The soil generally is loamy sand, running to clay at the lower altitudes. Rabbits are a great trouble, necessitating wiring; but in time the wires will be quite hidden from view by climbing Roses.

At present no labour is obtainable, so that the plants are not treated as they would be. When happier times come round Mr. Wettern hopes to start a new Rose garden on a far greater scale, the plans for which are already settled.

1.—OXTED PLACE: HOUSE AND TERRACE.

2.—STONE STEPS LEADING TO TERRACE.

THE AMERICAN ROSE ANNUAL

THE sub-title of this little book, which recently reached us, is "The 1917 Year Book of Rose Progress," and progress is decidedly visible in every chapter. Considering that this is only its second year of publication it speaks well for the keenness of American rosarians with their go-ahead methods, and leads one to expect even greater things from them in the future when their Rose Annual has reached the august age of our National Rose Society's publication.

The most striking articles in the American Rose Annual are those describing the work done and progress made in the Test Gardens, which seem to be numerous. Minneapolis, Cornell, Portland—all possess them; while the National Rose Test Garden at Washington is under the direct supervision of the American Rose Society.

What an object-lesson to our National Rose Society, which, after nearly forty years of existence, has possibly never considered the formation of such an interesting garden. What fitter and nobler memorial could be founded to perpetuate the memory of that great Rose lover, Edward Mawley, than a National Rose Garden?

The descriptions of these American gardens would be much enhanced by plans showing the arrangements of beds and grouping of varieties; perhaps they will be published later. Short articles are contributed to the Annual, describing work and experiences in the Rose garden, by

American enthusiasts, such as Mr. G. C. Thomas, jun., a prolific writer of Rose literature, who makes a tabulated study of the successes and failures of new introductions.

Admiral Aaron Ward describes his Rose experiences, while there are several articles on new varieties, which are as keenly sought after in America as in England.

Two coloured illustrations are included in the volume. One, a beautiful unnamed seedling (Frau Karl Druschki × Mrs. Charles Russell), is almost identical with Mme. Abel Chatenay. The other is the new American Rose Los Angelos, of which great things are expected.

The little book caters for all—the novice and the expert, amateur and professional—and every page of it can be read with interest.

3.—OXTED PLACE: GARDENER'S COTTAGE. MAIDEN ROSES ON THE RIGHT.

Roses in the Allotment Garden

NOW that allotment gardening will unquestionably be an established feature of our land, it may be advisable to see if anything can be done to make allotments attractive as well as useful. The question arises, "What can be grown in the allotment in addition to vegetables that will afford satisfaction for the toil expended?" Is there a household in the land that would refuse a good supply of cut Roses; and what can give more pleasure to the invalid than these delightful flowers? Then again, Roses can be readily removed in the event of the allotment having to be given up; and we know that many holdings are but temporary.

No one will dispute the fact that the allotment garden presents a sorry appearance in the autumn, and to enliven it with glorious Roses that are as gay in September as in June must appeal to all who love our national flower.

I think I may say it is extremely likely that Rose shows will be held during the next summer. Certainly I believe this will be the case with the National Rose Society. Possibly many who have vied with each other in producing the largest yield of Potatoes, the largest Carrots, or the most weighty Marrow, will now want to try their hand in producing the most glorious Roses. As the National Rose Society provides classes for those members who have never gained a prize, here is a stimulus to many readers who have not hitherto exhibited with success; and I may say that there is no royal road to this achievement, for with ordinary skill, such as we have seen this year upon the allotments of many munitioners and others in regard to vegetables, there is no reason why they should not win prizes for Roses.

If, then, this should be the desire of any reader, I would advise early preparation and to see that the land be deeply dug at once, taking care to work into the lower soil some of the best well-rotted manure he can get hold of. In addition, some basic slag at the rate of half a pound to a square yard of soil would be an excellent and lasting fertiliser.

I would suggest planting in rows, not necessarily all together, but at intervals here and there, so as not to interfere with the vegetable plots. It must be remembered that Roses delight in plenty of air and sunshine, so he must not plant where they will be overshadowed by tall rows of Beans or Peas.

Procure good ripened plants from noted growers, and do not heed the "cheap Jacks," which has frequently been the cause of many heart-burnings and failures. It is better to pay a little more for good material than to buy cheap auction-room plants that are often wrongly named and that have lain about for days. The Rose is very sensitive about its roots, and unless these are well preserved from drying winds, failure will be certain. I would advise early planting, say, the end of October and the first three weeks in November.

As to varieties, a dozen good ones for the beginner, if he wishes to exhibit, would be Candeur Lyonnaise (better than the German Druschki), Dean Hole, Hugh Dickson, William Shean, George Dickson, H. V. Machin, Florence Pemberton, Mrs. John Laing, Mélanie Soupert, Mrs. R. D. Maclure, Marcella and Mrs. T. Roosevelt. As regards George Dickson, many fail to grow this Rose well; so many of the flowers come divided. To overcome this to a large extent, the centre flower-bud should be removed, and only one of the side buds retained on each growth. Now one plant of a sort would not do; rather would I advise six, or even twelve, of a kind.

Supposing that one requires Roses only for decoration, I would strongly advise growing them as tall bushes or pillars, and many of the climbing sports of popular Roses are eminently suited for this mode of culture. These pillars take up no more space, and the Roses raise themselves aloft out of the way of other plants, yield abundance of blossom, and are far more economical and satisfactory than standards.

Another excellent method is to erect a light trellis-work of Bamboo canes some 5 feet or 6 feet high, and plant the Roses against this. I would advise planting such Roses about 3 feet apart. Really good sorts for this purpose would be Florence H. Veitch, Climbing Mme. A. Chatenay, Climbing Sunburst, Climbing Lady Ashtown, Hugh Dickson, Mrs. John Laing, Red Letter Day, Hadley, Chrissie Mackellar, Irish Fireflame, Lady Hillingdon, Betty, General Macarthur, Lyon Rose, Pharisaër and such-like Roses. Prune them very sparingly, merely cutting away some of the oldest and most worn-out wood every autumn.

If one has a friendly neighbour, there could be no objection to a dividing line of such Roses between the two allotments, and possibly one might even share the Roses.

One excellent method of using Roses in the allotment would be to plant rows of Polyantha Roses along the paths, giving them a space of about a foot from the edge of the path and about 18 inches between the plants. Isolated bushes may also be planted. They would not interfere with the general use of the allotment for vegetables, and, providing they are given a good deep root-run in well-manured soil, a few bushes thus planted will be a real joy to the grower. DANECROFT.

4.—THE WATER GARDEN AT OXTED PLACE.

The Best Market Roses and Reminiscences of June

JUST as a shepherd knows his own sheep, so does a keen rosarian know his own Rose bush; he may possess several scores of varieties and yet know their individual peculiarities, even when they are leafless in midwinter. It is a pleasant pastime in midwinter to wander round the garden and to recall the charm of the various varieties as they were in June.

Old rosarians, if they only knew it, are a very privileged class. They (and they only) have seen the transition from the misnamed Hybrid *Perpetuals* of a generation ago to the truer *Perpetual* Hybrid Tea of to-day; and while one may agree that the Hybrid Perpetual in its June glory has never been beaten in the newer varieties of reds in the Hybrid Teas; such sorts as Hadley and Hoosier Beauty equal them in colour and scent, and have the additional advantage that they stay with us in flower until winter, cold and grim, sends them to a well-earned rest.

The individuality of the Hybrid Tea Rose is truly marvellous. As we walk round the garden we may remember the extraordinary colour developed in hot, sunny weather of such reds as the dark crimson Château de Clos Vougeot, the scarlet crimson in Hoosier Beauty, and the richness of Hadley in shades and perfume.

One walks on, and the dwarfness of Joseph Lowe reminds one that this variety excels in wet weather when many others are washy, even if they open at all; shoots of the Pernetiana class dying back remind one of the weakness of this type of beautifully coloured varieties, and so on. Masses of Roses of one colour in a bed are most effective, but the more varieties one has in a garden the more interesting it is. Many and great are the good new things in store for those interested in Roses. It is a blessing for us all that finality and perfection are never attained in this world. The Rose world knows no war, but goes marching on in blissful ignorance of its existence. Many improvements and great strides over what one had in 1914 are at the disposal of a rosarian planting to-day. The finest and certainly the most useful of all Roses are found in the class known as

Market Roses,

which, for cut-flower purposes, have been proved and tested by market growers as the most suitable. Market growers are somewhat conservative, but the more up to date among them test most of the newer varieties which appear from time to time.

In Reds Richmond and Liberty have held the field for some time, but Hoosier Beauty as a forcing Rose is challenging their position, and for outside work Hadley is a strong competitor.

In Salmon Pinks Mme. Abel Chatenay holds the undisputed premier position, and it is truly one of the finest of all Roses for every purpose except exhibition.

In Pale Salmon and Flesh Pinks Prince de Bulgarie, a grand Rose, has a strong companion in Ophelia, one of the few "market Roses" also suitable for exhibition and indispensable for the garden. Pharisaër, another fine Rose of the same type, has been little grown by commercial growers. Mme. C. Lutaud has been more grown in America, and although not more free flowering than Prince de Bulgarie, is richer in colouring.

The Rose Pinks give us the richest and most difficult to select from, as there are so many good ones. The old favourite Mme. C. Testout has not such good form as, nor the intense colouring of, Lady Alice Stanley. Mrs. Charles Russell, although a little dull in colour, is otherwise one of the finest of all Roses in other respects. This is without a rival in lasting qualities when cut. Mme. Segond Weber is another grand variety of a full and satiny salmon rose colour. Killarney, so popular in America, does not "make good" here on account of its weakness for mildew.

Apricot and Orange Shades, too, provide several fine Roses. Marie Adelaide, still little grown, will come to the front as a worthy counterpart to Mme. A. Chatenay. Mrs. Aaron Ward, on the small side, has delightful form of flower.

MRS. CHARLES RUSSELL.

The Rose which lasts longest in a cut state.

Yellow Roses, of which there are now many, include Melody, best for forcing; Harry Kirk, a grand grower and large, but, like Lady Hillingdon, a trifle thin. I have not seen Mrs. Wemyss Quinn in a market nursery under glass, and this Rose was sent out, I believe, as a decorative variety, but, unless I am much mistaken, it would make an excellent market Rose. It is my favourite yellow Rose. Mrs. Hugh Dickson, too new to have been grown much for cut-flower purposes, when grown in a warm soil is a most delightful variety of superb form. It is really a deep cream-coloured Rose suffused with apricot and orange. Sunburst is much grown by cut-flower people, but is unreliable in colour.

The White Roses do not give much choice, and none is perfect. Molly Sharman Crawford is the best, although Mrs. Herbert Stevens is of better form and forces better, but I would not grow this latter variety, as it is so subject to mildew. The old Niphetos is still to be found in small market nurseries where a constant supply of white Roses for wreath work is required, but it is too weak in the neck and too small in size to be grown by the larger commercial growers. A few other sorts, such as Bride and Bridesmaid, are still being grown in reduced quantities, but many growers have given them up entirely for the more up-to-date varieties. Because market growers are so critical in the habit of the plant and the lasting quality of the flowers when cut, as well as of colour, &c., their opinion of a Rose is a very safe one to follow when one is out to find the best Roses. There is still room for further development in colour among the purely market Roses, notably for one of the Dorothy Page-Roberts colour (this variety being too thin for a cut flower). One day, no doubt, we shall have them all, and the fact that we still lack them keeps us all on the *qui vive*.

LAURENCE J. COOK.

Bush Hill Park.

THE SURVIVORS

BY the end of October, after some occasional nights of rather severe frost and violent storms of rain, one does not expect to see much remaining of the summer flowers. Even the Michaelmas Daisies that should still be in beauty have been destroyed by the wet and are deplorable objects, hanging in sodden masses of tangled rags. One of the pluckiest survivors of the tender plants is Calceolaria amplexicaulis, which still makes a fair show of bloom, well set off by its groundwork of the good old variegated Mint mixed with the golden green of Feverfew. Some of the Snapdragons are still also good. The fine late Aconite, A. japonicum, remains in beauty; in colour one of the finest of the blue purples. Clematis paniculata is in full bloom. One wonders why this fine plant is not in every garden, for it does for us in October what Clematis Flammula does in September, and does it even better, for the flower is larger and of greater substance, and the foliage is proportionally more important and is of a deeper green. Near it we have a good late Golden-rod. The ordinary Golden-rods I do not care for; in fact, I dislike them, thinking the colour bad and heavy and the cluster of bloom of a lumpy, formless shape. But this late kind—I do not know whether it is a distinct species or a garden variety—is a graceful plant, taller than the commoner ones and with an open-shaped feathery flower of a good pale yellow. That always interesting plant Leycesteria has now its second season of beauty, carrying its load of claret-coloured bract and berry. Clematis Vitalba is full of its feathery seed that puffs out so prettily when it is brought into a warm room. October Chrysanthemums ought now to be in flower, but our stock was killed last winter and has not been replaced. Pot Marigold, cut back in late summer, is a mass of bloom. Laurustinus, which comes into flower at the time when all else is going, is getting fairly full of bloom, and the ever-faithful China Rose is still with us. G. J.

Autumn-Flowering Wichuraianas

A PROMISE OF GOOD THINGS IN THE FUTURE.

BY H. R. DARLINGTON.

IN the Rose season now approaching its close, which must be one of the most unusual that any living rosarian can recall, the autumn crop of Roses has proved particularly good, notwithstanding the continued rain showers to which the blooms have been subjected. The hot May and June had given us full crops of particularly clean flowers, both on dwarfs and climbers, but the growth was short and poor. July and August brought the rain and put a rather sudden end to the summer blooming of the climbing Wichuraianas, particularly the later-flowering forms, whose petals were prematurely scattered over the lawns by the weight of the rains. This was, however, to some extent compensated for by the excellent summer growth which followed. This summer growth was not only strong and vigorous, but on the whole very free from disease. This was the more noticeable because in most gardens—and certainly in the writer's—the preventive methods of spraying usually resorted to were reduced to a minimum on account of the absence of the accustomed assistance; indeed, in the case of the climbing and pillar Roses it was almost entirely neglected, yet I have seldom seen them much cleaner.

The vigorous summer growth has brought adventitious flowers on many of the species this autumn, while Rosa rubella has shown nearly as many blooms as in its early summer show. The little dwarf R. alpina pyrenaica has also had a few blooms; and it seems, therefore, a favourable year to review the position of the Wichuraianas from the standpoint of autumn flowering. It must be confessed that we have as yet a long way to go before it seems likely that even the most enthusiastic amateur could feel satisfied with our progress in this respect.

The Climbing Roses of our modern gardens comprise a large number of garden forms of Wichuraianas and multifloras, which have for the most part been obtained by crossing the Tea Roses of our gardens, which contain a high proportion of the blood of R. indica, more or less directly with the wild type of Wichuraiana or multiflora.

In the case of R. multiflora two very distinct types resulted from this operation. We have, on the one hand, rampant climbers even stronger than the climbing wild parent, such as Crimson Rambler, Tea Rambler and Blush Rambler, which, like the climbing parent, flower but once in the year; and we have, on the other hand, a second group which in stature more resemble the Tea parent, and are even more floriferous and more constantly in bloom than the perpetual-flowering Tea Rose. Examples are Mrs. Cutbush, Orleans and Jessie, all perfect bedding Roses.

Before the war we were beginning to get an intermediate class, of which Trier may be taken as an instance, which, while not so rampant as the hybrid forms resembling the climbing parent, yet possessed the virtue of summer and autumn flowering; and it is possible that but for the war Mr. Lambert might have shown us others of this class by this time. Something of the same kind has occurred in the case of the Tea hybrids of R. Wichuraiana. We have the strong climbing forms, far stronger than R. Wichuraiana the type, which flower, some early, like Albéric Barbier, and some later, like Hiawatha, but have no profuse second blooming period; and we find also a dwarf group, most of which we owe to Mr. G. L. Paul, containing Iceberg, Amber, Seashell and others.

Subject as hereafter noted, no intermediate type resembling the Trier group in the multifloras has yet appeared. On the other hand, several of the climbing Wichuraiana forms produce a certain number of adventitious autumn flowers, which in a few cases are numerous enough to constitute

DOROTHY PERKINS. THE SOUTHERN BAY OF THE PERGOLA AT MOUNTON HOUSE.

an attempt at autumn flowering and at least hold out a promise of better things in the future.

Messrs. William Paul and Son have given us in Sylvia a little Rose of the Wichuraiana type which is truly perpetual, and can with care and suitable soil be induced to clothe a low pillar. I have seen it grown in this way, but in my own garden it seldom produces growths much exceeding a couple of feet, and almost induces me to class it with Mr. G. L. Paul's dwarf type. The nearest of the Wichuraianas approaching continuity of flowering among the climbing hybrids with me is François Foucard. This is a Rose of the type of Albéric Barbier and Gardenia, but inferior in form to both of these. It is not a strong grower, and might possibly be regarded as an instance of the intermediate type in this group, but it readily clothes an 8-foot pillar, and from the time of its summer flowering until the winter frosts it continues to put forth blooms, at times in fair quantity, but they are seldom good enough to gather for decoration.

Paul Transon is another climbing Wichuraiana which always produces autumn flowers in moderate quantity. It is a strong grower, and the summer flowers are a pretty shade of salmon pink. Those of the autumn, however, are much inferior in colour, and apt to look rather as though the rain had washed the colour out of them.

Dorothy Perkins is very variable in the matter of autumn flowering. Some few adventitious flowers are always produced, and in neighbours' gardens I have sometimes seen it flowering in sufficient quantity to be called an autumnal. I do not remember to have seen it flowering to anything like this extent in my own garden, and sometimes I wonder whether this greater profusion in other places may be due to the existence of a distinct type or sport, or whether it is a mere accident of soil and situation. The experience of others on this point would be valuable.

Alice Garnier is another climbing form flowering fairly regularly in autumn. The flower, however, is inferior to many both in form and colour, which is a rather dull and pale coppery yellow. It is a good grower and makes a neat pillar, but I only retain it as something of a curiosity on account of its autumn flowering, and I should like to see it superseded by a better one of similar habit.

Albéric Barbier, itself a fine Rose both in flower and foliage, and the best of its type, always produces a certain number of adventitious flowers from time to time during autumn, but they are never at any one time in sufficient quantity to be characterised as giving a true second flowering display. Gardenia seldom flowers to any extent.

Mr. Frank Cant's Braiswick Charm also gives an occasional autumn flower, and so does Mr. G. Paul's Shower of Gold. Both have beautiful foliage, but neither of them can be hailed as any decided step towards a real autumnal. The result seems to be that we have many Wichuraianas with a more or less pronounced tendency to autumn flowering, but that this tendency is as yet insufficiently developed in the climbing forms.

A Wichuraiana that would give a real mass of bloom in autumn following on the summer show of flower, and which should at the same time be of good colour and form retained in the second bloom, would be a real acquisition, and one that could scarcely be too highly valued. We have a number of new-comers in this group, some of them of considerable attractiveness, as, for instance, the beautiful Chatillon Rambler; but in respect of autumn flowers they have not carried us much further, down to the present, than some of the older varieties.

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATES.

Berberis Polyantha.—This highly ornamental Barberry, a Wilsonæ hybrid or seedling which originated at Wisley, is destined, we imagine, to make a good companion to B. rubrostilla, which, originating in the Wisley Gardens and, if we remember rightly, from the same set, also received a like award a year or so ago. The present plant attains a height of 6 feet or more, its arching branches aglow with the brilliant clusters of fruits characteristic of B. Wilsonæ at its best. It is, indeed, a glorified B. Wilsonæ with all the low bush habit deleted, capable, with its increased height, of brilliant effect in the garden or elsewhere. From the Royal Horticultural Society's Gardens, Wisley.

Apple Ellison's Orange (Calville Blanc × Cox's Orange Pippin).—This distinctly promising

APPLE ELLISON'S ORANGE.
(*First-class Certificate.*)

fruit had already received an award of merit and has now been advanced to the higher award. Characterised by a fine aroma, there is much to suggest the influence of Cox's Orange Pippin in its make-up. It is, however, of higher build and more deeply coloured and distinct in other ways. It has already attracted the attention of most up-to-date fruit specialists. Shown by Mr. H. Markham, gardener to Viscount Enfield, Wrotham Park, Barnet.

AWARDS OF MERIT.

Vitis betulifolia.—The species named is one of the best of the Vines introduced by Mr. Wilson, the plant referred to being regarded as a very superior seedling form of it. The russety leaves are small and ovate-acuminate, the miniature Grape-like clusters of fruits of rich dark colour covered with a bluish bloom. Regarded as one of the best for pillar or pergola use. From Mrs. Berkeley of Spetchley Park, Worcester.

Sophro-Lælia Roehampton.—A well-marked and distinct hybrid of a vinous red tone throughout.

Lælio-Cattleya St. George Bryndir Variety (Fabia × St. Gothard).—The large, spreading sepals and petals are rich rosy red, the front lobe of the lip crimson purple. These were from Dr. Miquel Lacroze, Bryndir, Roehampton (Orchid-grower, Miss Robertson).

The foregoing were shown before the Royal Horticultural Society on October 23, when the awards were made.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Globe Artichokes.—Clear away any decaying leaves from the base of the plants and pack some protective material around them to ward off frost. Nothing is better than freshly gathered leaves 1 foot thick, with a covering of long strawy manure to prevent the leaves blowing away. This protection should extend 2 feet away from the roots. Last winter being so severe, following so many mild winters, due protection was not in all cases given; the consequence was the loss of many roots, making the stock scarce during the last season.

Broccoli.—Now is a good time to take steps to protect the plants from severe frost, as last year the severe weather killed huge quantities in many parts of the country. The vital part to protect is the stem, which this season, owing to so much rain, is soft, therefore more liable to injury by frost. The most effective protection is to heel the plants over to the north. Take out a spit of soil on the north side close to the plant, lift the plant with a fork, laying it over to the north, and cover the stem with the soil taken from behind the next plant. If possible, a sprinkling of freshly gathered leaves would effectually afford ample protection over the surface among the plants after they have been heeled over.

Lettuce.—Transplant seedlings in frames as fast as they are ready, to grow on for spring use. Those already established should have free exposure during favourable weather to keep them sturdy and free from damp.

Celery.—Afford protection to the plants in case of frost; straw, litter and Bracken are all useful if spread over the leaves. Shorter material is useful for covering the soil on the top of the ridge, as here the injury to the young leaves is more likely to be felt.

Seakale.—Take up roots at intervals for forcing, removing the leaves and placing the roots in any moist, warm site, such as the Mushroom-house, under the staging in the greenhouse, or in boxes in the stokehole, where the growth will be rapid if the roots are kept moist and dark. Covering them with fresh leaves is quite a good method.

Tomatoes ripening their fruit or approaching that stage require a genial temperature of not less than 60°, and not too much moisture at the roots, yet they must not be kept actually on the dry side. Plants intended for fruiting early in the year should have an open position near the glass to induce a sturdy growth. A temperature of 60° by night should be provided.

The Flower Garden.

Alterations.—Where alterations to existing Rose-beds are contemplated, now is a good time to set about them. First carefully lift the plants, tie the labels securely to them, and prune back any thong-like roots to within 4 inches of their base, preserving all fibrous portions intact. Lay the plants in soil if they cannot be planted for several days, or, if in a shorter period, keep them moist and cover with mats. Deeply trench the soil in the bed or border, adding half-decayed manure to the upper trench; level the surface, and replant at once if the weather is dry. If possible, provide a small portion of compost consisting of decayed vegetable refuse, wood-ashes and old potting soil. A little of this placed directly about the roots will induce prompt action, thus enabling the plants to quickly become established. Many persons advise mulching the surface with half-decayed manure to protect the roots from frost. This is neither necessary nor wise; the soil when covered with this mulching material is kept cold by being robbed of any sun there may be. Should it be necessary later on to protect

the stems, not the roots, dry Bracken or straw is the best material.

Sweet Peas.—Now is a good time to sow seed to provide the finest blossoms next year in June and the following months. There is no comparison in the length of the flower-stems and the size of the blooms produced by plants sown in the autumn as against those sown in February, for example. Sow two seeds in sandy soil in each 3-inch pot, plunging the pots in ashes in a cold frame. Keep the soil moist and the frame closed until the plants show through the soil, when air should be given on all favourable occasions in order to keep the growth sturdy.

Early Flowering Chrysanthemums that have ceased to flower should have their stems cut down and the surface covered with coal ashes in order to protect the roots and young growth; or lift and pack them in a cold frame.

Plants Under Glass.

Zonal Pelargoniums for winter flowering should have a light position near the glass, with ample space, so that the growth may be sturdy. The plants should have all decaying leaves removed and be carefully watered, giving occasional doses of weak liquid manure to plants that are thoroughly established in their pots. A temperature of 50° by night should be provided.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—Soil should be placed about the plants on the first fine day and when the ground is moderately dry, first breaking it into fine particles, and the plants themselves tied so that the centres are protected from dirt falling into the outer leaves. Press the soil rather firmly as the work is proceeded with, to ensure its keeping the minimum of water in suspension, and slope the finished trench as much as possible to a point to throw off rain. The earlier prepared trenches will now be providing material for use, and it is worth while, when lifting the heads, to do so methodically, levelling the soil and clearing away all rubbish. From this time as many heads as will serve a week's consumption may be lifted at once, always lifting on the same day of the week to ensure it is not forgotten.

Cultivating Ground.—As far as possible, all vacant plots should be either deeply dug or double dug without delay or before being saturated with cold rains or snow; otherwise these operations had better be held over till after winter. The great success attending the breaking up of ground for allotments last spring is evidence that, beneficial as frost is, it is not essential, and so the condition of the soil and the weather should be a guide to winter cultivation.

Beans.—A sowing of Early Mazagan should be made on a warm border for early picking next year. Sow rather thickly, because this variety demands less space than others, and also because the crop, once ready, does not last long. Peas may also be sown, but on the whole they are a troublesome crop owing to mice, and usually it is possible to have early Peas just as soon by waiting till January.

Lettuce.—Seeds may now be sown in a box, which, placed in a structure a little warmer than a greenhouse, will cause germination very soon. Afterwards keep the little plants rather cooler. These will be useful to plant in cold houses or pits in January. One of the most useful varieties is All the Year Round.

Mustard and Cress.—These must now be raised in heat. If a layer of well-rotted manure or that from Mushroom-beds is placed in the bottom of a cutting-box and a modicum of soil laid thereon, then the seeds pressed gently down and moistened with tepid water, covered at once with brown paper, and the box placed on the pipes heating any of the hothouses, fine material will quickly result. The box must be transferred to a light position as soon as the plants are above the soil, and kept in a slightly growing temperature. Sow as often as needed and always on the same days, so as to ensure that no break occurs in the supply.

The Hardy Fruit Garden.

Late Pears.—Some of the varieties, such as Marie Louise, will now be ready to pick, but the very latest must be picked with some caution. Glou Morceau, Winter Nelis and Bergamotte Esperen are examples of those which should be left till the latest moment. It will be noted how some trees shed their fruits when ready, while others do not. Just when to take these is a matter for experience, but usually it is important not to hurry late sorts.

Apples.—All, with the exception of a few very late varieties, should now be gathered. The best time is after midday, leaving off before dew falls. A breezy day is very suitable for gathering at this late date. Store where the fruit will be absolutely cool all through the winter and, if possible, where the temperature varies only a few degrees. It does no harm whatever to the fruit to store it several layers in depth. I have always to do so, and never have any trouble in consequence. Even fallen fruit, if the skin is not broken, will keep good for months under suitable conditions, but, of course, it is wise to keep it apart from the other.

Pruning.—A commencement may be made with Red and White Currants, putting a few cuttings of each aside to produce plants to fill blanks or make new plantations. The lower buds should be rubbed off, and as soon as possible the cuttings planted 9 inches deep till rooted. Clear off prunings and burn as the work proceeds, and "point" the ground about the bushes, adding a slight dressing of cow-manure where necessary; but, as a rule, the bushes ask for little manurial assistance. After these are finished, go on with the Apples, the foliage of which is yellowing, even though still on the trees. It will be found a great advantage to get all this work out of hand as early as possible, and no harm will follow to the trees. Rather is it an advantage, the leaves showing where crowding occurs and how it may be avoided in future by thinning shoots and spurs.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

Federation of Allotment Societies

THREE hundred delegates, representing over 30,000 allotment holders in London and the Southern Counties, met in the Essex Hall, Strand, on October 20, at a conference convened by the Vacant Land Cultivation Society, 8, Buckingham Street, Strand, W.C.2, and unanimously decided to establish a Federation of Southern Counties Allotment Holders, which will assist in the formation of a national organisation on democratic lines eventually embracing every allotment society and allotment holder throughout Great Britain.

Mr. Frank Smith, chairman of the Vacant Land Cultivation Society, who presided, paid a tribute to the memory of Joseph Fels, "internationalist and lover of humanity," the founder of the Vacant Land Cultivation Society, and spoke in appreciative terms of the great work accomplished by allotment holders who had "mobilised with spade and hoe at this critical juncture." The lines along which they might advance for the removal of land monopoly were organisation, combination and co-operation. The Defence of the Realm Act had cut through the barbed wire of land monopoly. They were a quarter of a million strong, with a probable addition of three-quarters of a million ready to take the field when legislative and administrative powers permitted.

A Provisional Council of twenty was appointed, and it was decided to remit to this body the "Allotment Holders' Charter" which was submitted by the Vacant Land Cultivation Society, and which points out that the time has arrived when provision should be made by the Government for increasing the number of allotments and affording security of tenure to those working them, and urges the necessity for organisation among allotment holders.

The conference unanimously decided that a petition expressing the claims of allotment holders should be at once prepared and circulated for general signature, for presentation to the Board of Agriculture at as early a date as possible. The Vacant Land Cultivation Society is to provide the necessary office accommodation and staff for the conduct of the business of the Federation for a year or a shorter period, as may be desirable.

AUTUMN ROSES

HOW we love our autumn Roses! They seem the more precious because we know they are a fleeting pleasure. This year, in spite of wind and rain and want of sun, the Roses are pouring their fragrance out upon the world as if it were still summer. My rosery is a stretch of velvet lawn, and only when a Rose has proved itself, when I know it will bloom and bear its leaves right into autumn, is a bed cut for it in the emerald setting. Each kind is separate, and this year I am reaping a rich harvest. Great bunches of that dream of beauty, Mme. Abel Chatenay, still find their way to my vases, leaving many more to charm the garden with their sweet loveliness. Near by, her rival, the true old La France, shows us in a sheltered spot that old Roses can still keep their places in our gardens; but as Time seems to have made her tender, she must have a wall to show her true worth. Caroline Testout opens daily her pink blooms, mostly flanked by darker buds, and her stiff, straight stalks make her a joy in the house. Against a wall that old early favourite, Reine Marie Henriette, is spreading her perfumed flowers, and a nameless friend is covered with rich creamy petals. Here the ultra-modern Mme. Edouard Herriot teases one with the everlasting question of her colour. She is too golden to be red, too red to be salmon, too pink to be yellow, so the only way to know her is to see her. Among these ladies we come to that king of autumn Teas, Joseph Hill, covered with a profusion of coppery salmon flowers; and here is our ever-welcome friend, dear old General Jacqueminot. Matchless in colour, with its own exquisite scent, no Rose can ever take its place in my heart. And so I move from bed to bed, from bush to bush, drinking in all the beauty and delight before winter robs me and leaves only a memory and bare brown stalks.

MAY NOEL.

AUTUMN AND WINTER VEGETABLES

THERE is a wealth of good green vegetables obtainable all through the winter months if those kinds are grown which are reliable. Of course, at this season I can only briefly note cultural details, but mention of some vegetables that are not grown as much as they deserve should prove of interest to amateurs. A great many growers are not able to force such plants as Seakale, Asparagus and other kinds of vegetables, so that I shall not touch upon these, but on those kinds that are easily grown and give a long supply.

The useful Celeriac is a vegetable that the amateur can grow to perfection and at small cost; indeed, it is less troublesome, if I may use the term, than Celery, as there is far less labour and food required, and the plant is hardier and gives a crop from November to April. The seed is sown early in the spring somewhat like Celery, and the plants grown on and planted out in deeply dug, well-manured land in rows or drills (not trenches) 2 feet apart. Unlike Celery, to which it is closely allied, it makes a bulbous growth like a large knob, and this is the edible portion. It has a distinct Celery flavour. When fully grown the roots are trimmed and stored in soil or sand in a cool place, much the same as Beetroot or other roots, but I have in the southern part of the country drawn some soil up to the plants and thus wintered them in the open, just covering them with litter in severe weather. I have found Erfurt, Prague and the Large Knob the best.

Celeriac is also valuable as a salad. Boiled and sliced like Beetroot it is delicious, and it may be used in other ways as a salad. As a vegetable the common mode of cooking is to boil it and serve with white sauce, but it is delicious when boiled for a time in clear water, then finished with rich stock and served hot, or partially boiled and then cut in slices or large pieces and finished in butter.

Endive, such as the Large Round-leaved Batavian, is a splendid winter vegetable. I do not advise its culture in the same way as Celeriac for winter supplies, but in the autumn it is far better to make use of it than allow it to spoil, and when boiled it is excellent.

The value of the Cucumber when served as a vegetable is usually overlooked. It is delicious; and at this season there is often a fair supply, which may be used in a variety of ways as a vegetable. Couve Tronchuda is a vegetable not much used in this country, yet it is excellent in the autumn. It is more commonly known as Seakale Cabbage, the midrib or stalk of the plant being used like Seakale, and in the autumn the heads are cut and boiled. Like Seakale, it grows freely in any soil; but to get fine fleshy leaves it is well to sow in the spring and plant out in good ground in May or June for an autumn supply. Plant 2 feet apart between the rows and half that distance in the row.

Salsify and Scorzonera are two distinct vegetables much overlooked by amateurs, yet their culture is as simple as that of Celeriac. The seed, if sown in May or June, will give fine roots for the winter. If sown too soon, both of these plants, and especially the last named, have a tendency to bolt or run to seed, so that the dates given are sufficiently early. The Salsify has the larger root and should be given a space of quite 2 feet between the rows; and this distance is also suitable for the Scorzonera. The Mammoth is the best Salsify. The roots are lifted and stored like Beetroot. It is a great favourite on the Continent, and may be cooked in a variety of ways. The same remarks apply to Scorzonera, a long black root with a very peculiar flavour, quite distinct from that of other vegetables, and often much liked on this account. The Large Russian is the best type of Scorzonera.

Though a simple vegetable, I would call attention to the value of the yellow Turnips. These are quite distinct from the ordinary white roots, and they remain sound all through the winter. Golden Ball is very good, as is Dobbie's Golden, which is a splendid keeper.

I have not dwelt upon green vegetables, such as Borecoles, Savoys and others of the Brassica type. The Kales are so well known that I need not describe them. We now have fine forms of the Scotch, such as Sutton's Arctic and others; but I would point out the value of the true winter Cabbages. These are quite distinct from the ordinary spring Cabbages and the Colewort varieties. The latter are not hardy enough to go through our severe winters, as when fully grown they split badly, and this spoils the heads. The most hardy variety is the Christmas Drumhead, a medium-sized flat head with very short stalk. This at Christmas is almost equal to a good spring Cabbage, and it is very hardy and remains solid and good for a considerable time. It should be sown in May or June for early supplies. St. John's Day is a true winter Cabbage and a very good flavoured variety. There is also a winter Cabbage called Veitch's Drumhead Colewort, which is very useful for its small, compact growth and excellent flavour. Much more might be said about vegetables for autumn and winter supplies, but the foregoing notes will, I hope, arouse interest in this important phase of kitchen gardening. W. G.

THE CULTURE OF FRUIT TREES.—V

(*Continued from page* 448.)

PLUMS: SELECTIONS FOR UTILITY AND QUALITY.

In considering the special requirements of Plums we must place lime in the foreground. Without this necessary material they pine and fade, and those who fail with this fruit, as well as those who are about to plant it, must first make sure that it is present. The Plum, secondly, dreads the "knife" not less than the working-man's wife. Were it articulate, it would, I imagine, echo the Irishman in "John Bull's Other Island"; "All we want is to be left alone." Let us preach, therefore, the gospel of freedom in this matter. Standards and free-growing bushes are undoubtedly the best way to grow Plums; the bushes not to be cut back as the much enduring Pear and Apple, but to be left to grow naturally as a standard on a low stem. Cordons will fruit if often lifted and root-pruned; in fact, this should be done every year until they are "learned" to restrain their vegetative exuberance. Horizontally trained Plums are spoken well of by some experts, but I must venture to demur to this. (If experts did not differ occasionally, how dull would be the layman's life!) Fan-trained trees, being, as it were, a section of a standard, are a nearer approach to a natural form, and if the gardener will allow the tree to grow *ad lib.*, this will, I think, give the best results on walls. The early flowering habit of Plums is often their undoing, and in a season such as this, when all blossom was late, it would seem to show that protection during the flowering period would be worth while. A light mat hung over the tree would keep off spring frosts of the less violent order, to be removed during sunny weather. The Plum has also been shown to be self-sterile in some places, and therefore hand pollination—a matter of a few minutes per day per tree—is well worth trying. This should not, however, exclude the possibility of a lack of phosphates as an alternative, and very possible cause of infertility, a matter of which more anon.

Utility List.

Czar.—Early August. A small blue fruit, moderate dessert quality, but a good cooker. A compact and upright grower and most reliable.

Early Transparent Gage.—A delicious Gage, the most consistent cropper of its family.

Belle de Louvain.—End of August. A large fruit well known to the London coster and his clients.

Victoria.—Too well known to need description. Its regular cropping makes it decidedly the fruit for those who can only accommodate a single tree.

Giant Prune.—This is comparatively little grown yet, but is quite the most certain cropper of the late Plums. It resembles Pond's Seedling. Does well as a cordon, being thus an exception to the general rule.

Quality List.

Early Transparent Gage will be the earliest in this section. It ripens successively, so that in some seasons, as the present, it will still be furnishing fruit after Green Gages are over.

Denniston's.—Mid-August. Medium in size but rich in flavour.

Purple Gage.—A rather small fruit of a dark purple red. Most delicious.

Jefferson's.—One of the most popular and best of Gages.

Green Gage.—Still the standard of excellence.

Old Transparent Gage.—Worth growing for its beauty; not apt to go mealy. "Diaphane"—its French name—is descriptive.

Kirke's.—One of the best flavoured of the blue Plums. A moderate cropper.

Coe's Golden Drop.—Still unequalled at its season, and has the merit of keeping some weeks in a cool room after gathering.

Bryanston.—A tardy Green Gage equal to its parent, and should be in every collection.

Reine Claude de Bavay.—The latest of Gages, of good quality, ripening from the middle to the end of September. Of vigorous growth.

There are several good Plums omitted from this list, but those chosen will give a continuous supply throughout the whole season.

Cooking Varieties.—As a general rule the mealy Plums are best for culinary purposes. Early Rivers', Orleans, Czar, Belle de Louvain, Pond's Seedling, Monarch and the Kentish Bush all cook well. The Gages are generally disappointing when used for pies or stewed, and, except for jam, are better reserved for dessert. E. A. BUNYARD.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting of the society on the 23rd ult. was, following closely upon the heels of the special exhibitions of vegetables and British-grown fruits, in the nature of a surprise, fruit and vegetable collections of the highest excellence vying with each other for supremacy. Rarely indeed have so many meritorious collections been staged at one meeting, a proof, if such were needed, that food products are receiving the attention they merit. Of even greater interest and teaching value was the collection of vegetables staged by Messrs. Sutton and Sons, Reading, from sowings made on August 1 last, the comprehensive assortment proving to demonstration the possibilities of successional cropping when intelligently undertaken. Bottled fruits and vegetables were also good. For the rest, there were delightful gatherings of Roses and Carnations, groups of brilliant foliage plants, choice Orchid collections and much besides.

FRUIT AND VEGETABLES.

In this section two gold medals were awarded, one of these going to Messrs. Barr and Sons for a highly meritorious and comprehensive collection of vegetables, for which no amount of praise would be excessive. With everything of the best it is not easy to particularise. Celery in variety and Leeks in the background were most effective, as were also the Seakale and Chilian Beet. Potatoes Exhibition Red, Kerr's Pink and Snowdrop, French Beans, Stump-rooted Scarlet and other Carrots, and Sprouts Barr's Standard were very fine. Onions were particularly good, James' Keeping, Ailsa Craig and Rousham Park Hero being noted. Tomatoes and Aubergines afforded colour beauty and variety. The whole was admirably staged. An excellent collection of vegetables, too, came from Eustace E. Palmer, Esq., Drayton House, Basingstoke (gardener, Mr. H. E. Wallis). Here Early Gem Carrots, also Sutton's Champion Horn and Sutton's Favourite, were perfect examples. Perfection Tomatoes, Blood Red Onion, Dwarf Gem Sprouts, Delicacy Cucumber and much besides were seen in excellent condition. A silver-gilt Knightian medal was awarded. In that from Messrs. Sutton and Sons, Reading, interest centred, as already noted, in the fact that all had been raised from sowings made on August 1 last, thus constituting it an object-lesson of more than ordinary import.

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(An excellent set of three potatoes for infected areas would be "King George," "Great Scot," and "Lochar" or "Templar." Prices of main crop sorts will be quoted later.)

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Of culinary Peas the varieties Ideal, First of All, Ringleader and Improved William the First were noted. Lettuces Sutton's Heartwell and Stanstead Park; Early Gem and other Carrots; and White Milan, Golden Ball and Red Globe Turnips and others were included. Radishes were abundant. Everything was of high table quality and, naturally, invested with the delicate flavour associated with youthful produce. The collection of bottled fruits and vegetables from Lady Elizabeth Dawson, Cannon Hill, Maidenhead, was also of high merit. Cherries, Raspberries, Plums, Peaches, Loganberries, Gooseberries and many kinds of vegetables were noted, a silver-gilt medal being awarded. C. A. Cain, Esq., The Node, Welwyn (gardener, Mr. T. Pateman), sent sixty dishes of excellent Apples and Pears, The Queen, Rev. W. Wilks, Cox's Pomona, James Grieve, Tyler's Kernel, Rival, Bramley's Seedling and Newton Wonder of the former being very good. Excellent in every way was the gold medal collection of Apples and Pears staged by Messrs. George Bunyard and Co., Maidstone, some 150 dishes of the finest conceivable quality being skilfully arranged. Rarely indeed has finer produce been seen. St. Edmund's Russet, Egremont Russet, Ribston Pippin, Golden Spire, Rev. W. Wilks and other Apples were grand; tempting-looking dishes of Doyenné du Comice, Beurré Diel and Beurré Clairgeau Pears being also noted. Of considerable interest as showing what is possible in school gardens was the collection of vegetables and fruit from the Purfleet School Gardens, for which a silver Knightian medal was awarded. Sixty dishes of fruits (chiefly Apples) and thirty-four of vegetables were staged. Fourteen of the boys, it was stated, have raised 2,516lb. of Potatoes, which have realised some £14—a rather creditable performance in times like these. Of considerable interest, too, was the collection of wart disease resisting Potatoes from the Society's Gardens at Wisley. Forty-five varieties in duplicate—cooked and as lifted—were staged, together with the resulting weights from forty plants of each. Some of these we may refer to again.

ORCHIDS.

Some beautiful novelties came from Messrs. Armstrong and Brown, Tunbridge Wells, the more notable being Brasso-Cattleya The Baroness Orchidhurst Variety, whose broad golden petals and well-proportioned, protruding lip rendered it conspicuous amid all; and Odontoglossum Pembury, whose white-tipped petals with heavy chocolate base render it unique. Each received a first-class certificate last year. Odontoglossum Aspasia, O. Adonis, Cattleya labiata Princess of Wales and Cattleya Venus were also shown. Some of the seedling Odontoglossums, it was noted, were flowering on the first bulb, a rare occurrence in these plants. From Messrs. Hassall and Co. were Brasso-Cattleya Moira, Cattleya Hilary and Lowiara insignis (red and crimson), the recognised generic name for the Brasso-Lælia crosses. Mr. Edward V. Low, Hayward's Heath, showed Cattleya Venus and Dendrobium Phalænopsis hololeuca, the latter pure white. Cypripediums and Cattleyas were the chief items from Messrs. Sander and Sons, St. Albans, Cattleya Fabia elatior Rex being very fine. In a good group Messrs. Charlesworth and Co., Hayward's Heath, had beautiful examples of Vanda cærulea, Odontoglossum crispum The Premier (white with lacerated petals), Brasso-Cattleya Queen Alexandra and Lælio-Cattleya Laura (chrome, with orange and fawn coloured lip). Cattleya Iris, C. Prince John and Lælio-Cattleya Carmencita were notable among many things from Messrs. J. and A. McBean; Messrs. Stuart Low and Co., Jarvisbrook, showing Brasso-Cattleyas, Vanda cærulea and Cattleyas in variety. A grand inflorescence of Odontoglossum coronarium, 2 feet 4 inches long and crowned with crimson and yellow flowers, was sent by Sir Jeremiah Colman, Bart. (gardener, Mr. W. Collier), together with Cattleya Browniæ.

ROSES.

Though late in the year, Mr. Elisha J. Hicks, Hurst, Twyford, Berks, staged a delightful lot of Roses, the great stands of not a few sorts demonstrating the wealth of such things even at the end of October. Old Gold, Mrs. Dunlop Best, Charles E. Shea, Mrs. Wakefield Christie-Miller, Mme. Edouard Herriot and Lady Hillingdon were among many, though perhaps the new seedling Sir Almoth Wright was the chief attraction in a notable lot. The Rev. J. H. Pemberton showed vases of Pax, Moonlight, Ecarlate, Clarissa and others.

HARDY PLANTS.

The most beautiful hardy plant shown was Nerine Bowdenii, a fine gathering of which Mr. Frank Lilley brought from Guernsey. Others less hardy, of the same group, were N. Fothergillii elegans, whose brilliant scarlet flowers are flushed with orange vermilion—it is exceptionally long in the stem and good for cutting; N. Red Star, N. elegantissima and N. delicatissima. Messrs. J. Cheal and Sons, Crawley, showed shrubs with effective autumn foliage and fruits, Sea Buckthorn, Pernettyas, Berberis Thunbergii (very brilliant), Liquidambar and Amelanchier arbutifolia being among them. Messrs. Piper staged well-fruited examples of Cratægus Pyracantha, also many Acers, Cotoncaster adpressa and choice Vines. The Alder River Company, Iver Heath, associated varieties of Lilium speciosum, roseum, Krætzeri, also L. longiflorum, with effective autumn foliage, Acers, Berberis Thunbergii, Coriaria terminalis, Pernettyas and the pale yellow shrubby Potentilla Vilmoriniana. The lovely Primula crispata—a glorified P. capitata in colour and size of bloom—was represented by two or three dozen flowering plants. In Mr. G. Reuthe's group the most brilliant flowering plant was Gentiana sino-ornata, whose rich blue cups attracted everybody. The most striking foliage plant was Rhododendron quinquæfolia. Eucryphia cordifolia and Crocus marathonisius were very beautiful.

GREENHOUSE PLANTS.

Of these, the Fern group from Messrs. H. B. May and Sons, Edmonton, was noteworthy, the best Nephrolepis, Marshallii compacta, Whitmannia compacta, Davallia tenuifolia stricta and Platyceriums being well shown. A good set of Veronicas was also on view. Messrs. Allwood Brothers, Hayward's Heath, alone displayed Carnations, Salmon Enchantress being the most telling pink, Champion the pick of the scarlets, and Wivelsfield White the best of its class. Some promising seedlings were also shown.

NATIONAL CHRYSANTHEMUM SOCIETY.

On Monday evening, October 22, a meeting of the executive committee was held at Carr's Restaurant, Strand, when Mr. T. Bevan occupied the chair. The preliminary part of the evening's work was chiefly routine arrangements in connection with the society's show on November 6. This will take place in conjunction with the Royal Horticultural Society's usual fortnightly meeting at the London Scottish Drill Hall. It will be open to the public from 1 p.m. to 5 p.m. only. Non-members will pay at the door. The other part of the evening's work was to consider the resignation of Mr. R. A. Witty, the highly respected secretary, who for over eleven years has so ably and successfully filled that post. Owing to an increase in his professional work Mr. Witty finds it impossible to continue, an announcement that was very much regretted by everyone present. There was, under the circumstances, no option but to accept the resignation, but the committee felt that they could not part with Mr. Witty's valuable services without making him some substantial recognition, and it was therefore resolved that he should be presented with the National Chrysanthemum Society's gold medal and an illuminated address as a token of the committee's appreciation of the way in which Mr. Witty had carried out his duties. There was but one nomination for the vacant place. The voting was unanimous, Mr. Charles H. Curtis being appointed. As an old worker on the committee, Mr. Curtis, in thanking them for the honour done, said he would always be pleased to do his best, as hitherto, in the interests of the society.

EDITORIAL NOTICES

Every department of horticulture is represented in THE GARDEN, *and the Editor invites readers to send in questions relating to matters upon which they wish expert advice.*

The Editor welcomes photographs, articles and notes, but he will not be responsible for their safe return. All reasonable care, however, will be taken, and where stamps are enclosed, he will endeavour to return non-accepted contributions.

As regards photographs, if payment be desired, the Editor asks that the price required for reproduction be plainly stated. It must be distinctly understood that only the actual photographer or owner of the copyright will be treated with.

The Editor will not be responsible for the return of artistic or literary contributions which he may not be able to use, and the receipt of a proof must not be taken as evidence that an article is accepted. Publication in THE GARDEN *will alone be recognised as acceptance.*

Offices: 20, *Tavistock Street, Covent Garden, W.C.2.*

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FRUIT GARDEN.

EXTRACTING ALMONDS (*A. H. B.*).—There is no other method of extracting the kernels from Almond shells than by hand cracking. Machinery can be used, but it would not pay to purchase a machine for one year's nuts. Moreover, the Almond that is grown for its kernels is a special variety with a much thinner and more easily fractured shell than the Almond that is grown in gardens here as an ornamental tree. After the kernels have been extracted, they will require very careful drying if they are to be kept for any great length of time.

APPLE NEWTON WONDER NOT BEARING (*W. E. C.*).—It is characteristic of many of our strong and vigorous growing varieties of Apples, such as this and Peasgood's Nonsuch, not to bear freely until they have attained moderate age, say, about ten years old or so; but once they begin to bear, they fruit well afterwards. This Apple is one of the finest of all cooking sorts, and is also good for dessert in spring. It is well worth waiting for. The leaders should be cut back to half their length, and let all the side shoots on the main branches be spurred back, the weaker ones to within two, and the stronger ones to within three buds of their base. Some would advise root-pruning, but we do not for the present.

CYDONIA FRUITS (*M. C.*).—The fruit sent for examination is apparently one of Cydonia Maulei, not C. japonica. It is not quite ripe. Such fruits are yellow and fragrant when quite ripe. The fruit may be used for jelly-making in the same way as that of the common Quince. At a time like the present, when sugar is so scarce, it is doubtful whether anyone is justified in using it for the preservation of such fruits.

GRAPES SHANKING (*J. K.*).—Overcropping is responsible more than anything else for bringing about the shanking of Grapes. The best way of preventing an attack and to bring the Vines round to good health again is to avoid overcropping and to partly renew the Vine border with the best new Vine soil procurable.

PACKING GOOSEBERRY BUSHES (*Mrs. A. G. S.*).—The best way will be to tie up the branches of each bush singly fairly tightly together, thus getting them into as little compass as possible, and then to place them in a crate or hamper, pressing them fairly closely together, covering with matting, and lacing them tightly down. As soon as they reach their destination let them be unpacked, planted immediately, and afterwards pruned. It would not do to prune them before, as the pruned shoots might afterwards be damaged.

APPLE PEASGOOD'S NONSUCH (*J. C. F. M.*).—There is a tree of this variety in a neighbour's garden, the history of which is on parallel lines with yours. We knew it first about sixteen years ago. It was then about six years old and had not borne a fruit. It remained barren for another three or four years, and was about to be rooted up. We pleaded for its respite, for in the meantime it had become a handsome tree. The owner has reason to be thankful for his clemency. The tree has borne good crops practically ever since. It has only missed bearing a crop once in that time. You may therefore now live in hope that your tree has at last become a treasure. It will be found an advantage not to gather the crop of fruit of this variety all at once. It is better to begin with the poorest and smallest fruits, say, towards the end of September, a few at a time, proceeding in the same way at intervals of a fortnight, leaving the largest and best until the last week in October. By adopting this method the fruits remain fresh and in good condition much longer than if all were gathered at the same time.

KITCHEN GARDEN.

KEEPING SUGAR BEET (*A. A. M.*).—At the end of October or any time during November carefully dig up the roots without injuring the tap-root, remove the soil from them, and cut off the tops to within an inch or so of the crown. In a shed, if possible, make a pile of the roots, covering them with sand or ashes. If no shed is available, make a stack of them out of doors, and cover with straw and soil over the heap sufficiently thick to keep out frost. The roots will keep quite fresh and fit for use until June, when new roots would be available. If the heap is more than 3 feet square, leave a ventilating hole at the top to let out steam, which may arise at first if the bulk is large enough to generate such. An ordinary drain-pipe fitted in the top will suffice, allowing the base to stand on the roots with the opposite end exposed.

FLOWER GARDEN.

MICHAELMAS DAISIES (*A. S.*).—In Mr. Beckett's opinion the dozen best varieties of Asters (ericoides and vimineus types) are, in order of merit, the following: 1, Perfection; 2, Aldeboran; 3, Hon. Edith Gibbs; 4, Ringdove; 5, Enchantress; 6, Golden Spray; 7, Simplicity; 8, White Diana; 9, Little Boy Blue; 10, Little Bo-Peep; 11, Twilight; 12, Ideal.

ROSE GARDEN.

CLIMBING ROSES IN COLD HOUSE (*Hon. Mrs. T.*).—You should at once give the soil a top-dressing of some good fertiliser, such as Clay's. Remove an inch or 2 inches of the soil around each plant to a width of about 2 feet each way and sprinkle on a good handful or two of the fertiliser; then return the soil. Such pruning as is necessary should be done early in December. You should retain the ripened young growths made this year almost to their full length. Shorten back any lateral shoots springing from old growths to 3 inches or 4 inches for the smallest, and leave the longest some 12 inches to 18 inches long. To accelerate growth, keep the house closed after you have pruned; even on sunny days you should do this. As new growth appears, syringe on bright mornings—about ten o'clock. If frost threatens to be severe, you could, perhaps, have an oil stove introduced; but what would be better still would be a Loughborough boiler. This would enable you to have a gentle heat, and you would get blossom in about twelve or fourteen weeks from pruning.

MISCELLANEOUS.

CLOVER IN LAWN (*G. H. R.*).—By dressing your lawn with nitrate of soda you may be able to destroy a good deal of Clover, although it is difficult to eradicate it from a lawn. A good dressing of sand will help to lighten the surface of the lawn. It can be applied to a depth of an inch, but it ought to be raked about on every possible occasion, otherwise it will be liable to cake on the surface and prevent the grass growing through. If sea sand can be procured, it is better for the purpose than any other kind.

COOKING SWEET CHESTNUTS (*E. L. D.*).—A cheap way of cooking Sweet Chestnuts is to boil them until soft, and then mash them with a little salt, pepper and milk, and serve in the same way as Potatoes.

VARIOUS QUESTIONS (*J. G.*).—1. There is always a very limited demand for the seed named, and under the conditions which prevail at the present time we do not think you will be able to obtain more than a shilling per 100 good seeds. Of course, if a firm happens to have a special demand for the same, you may obtain a higher price. 2. Messrs. George Farmiloe and Sons, Limited, 34, St. John's Street, West Smithfield, E.C. 3. We have had no practical experience of the waterproof paper, but have heard good accounts of it. 4. We have made enquiries concerning this matter, and, from what we learn, should prefer paint and putty to the other subjects named.

KEEPING CHESTNUTS (*Torquay*).—Chestnuts may be kept in good condition for a long time in a moderately cool place, such as a cellar. In this way they will keep plump and fresh. They can also be kept for an even longer time if put in layers in a tub or box, each layer being covered with dry sand. Though it is necessary that the sand be dry, it must not be baked in order to ensure that condition, as if excessively dry it will extract too much moisture from the nuts.

NAMES OF PLANTS.—*F. E. C., St. Asaph.*—Viburnum Opulus, the Water Elder.——*Torquay.*—Much shrivelled, but apparently Salvia Grahamii.——*A. M. R.*—Japanese Maple (Acer palmatum).——*W. D.*—Probably Lilium bulbiferum, not uncommon.

NAMES OF FRUIT.—*E. T.*—Annie Elizabeth.——*Mrs. V. G. K.*—Colonel Vaughan.——*D. L. S.*—1, Lane's Prince Albert; 2, Warner's King; 3 and 4, Wellington: 5, Pear Marie Louise; 6, too bad to name.——*C. E. D.*—Apples: 1, Cox's Pomona; 2, Lord Burghley. Pears; 1, Broom Park; 2, Beurré Hardy; 3, Josephine de Malines; 4, Swan's Egg; 5, Louise Bonne of Jersey.

OBITUARY

ELIJAH ASHWORTH.

We regret to learn that Mr. Elijah Ashworth of Harefield Hall, Wilmslow, passed away unexpectedly early on October 18. Mr. Ashworth belonged to the older race of Orchidists, and his collection was a thoroughly representative one and well known in the Manchester district, where some fine exhibits have been staged. Of late years, however, he had been less frequently seen as an exhibitor. Mr. Ashworth was also an occasional exhibitor in London, and he had been a member of the Royal Horticultural Society's Orchid committee for the last sixteen years, his death causing a vacancy on that body. He was also chairman of the Manchester and North of England Society from 1906 to 1911, and a very regular attendant at the meetings. Mr. Ashworth was an enthusiast in his favourite hobby, and each section of Orchids was well represented in the eight or nine houses devoted to their culture, the plants, moreover, being very well grown. He also raised a number of seedlings, more particularly Cypripediums. The collection contained a number of rarities, among them the remarkable Trevoria Chloris, an Andine Orchid, of which few plants have reached this country. He was also very successful with the Philippine Dendrobium Victoria-Regina, of which about a dozen plants were suspended in the Odontoglossum house, this having been found the most suitable position for them. Here also was grown successfully the pretty little Epidendrum Endresii, which is now seldom seen. A white form of Lælia Jonghean was one of his favourites, and a good many other choice varieties were included in his collection. His death is a great loss to Orchidology.

The Scarlet-Fruited Thorn.—Mr. Arthur R. Goodwin sends us leaves and fruits of this tree (Cratægus coccinea), which is by no means as well known as its merits deserve. The fruits or haws are several times larger than those of our common Hawthorn, and of a bright coral red colour. Several of these large-fruited Thorns are in the front rank of the smaller deciduous trees, as not only are they handsome in spring, but also in autumn, when resplendent with their brilliant fruit. We hope shortly to publish some notes about these most desirable trees.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.2.*

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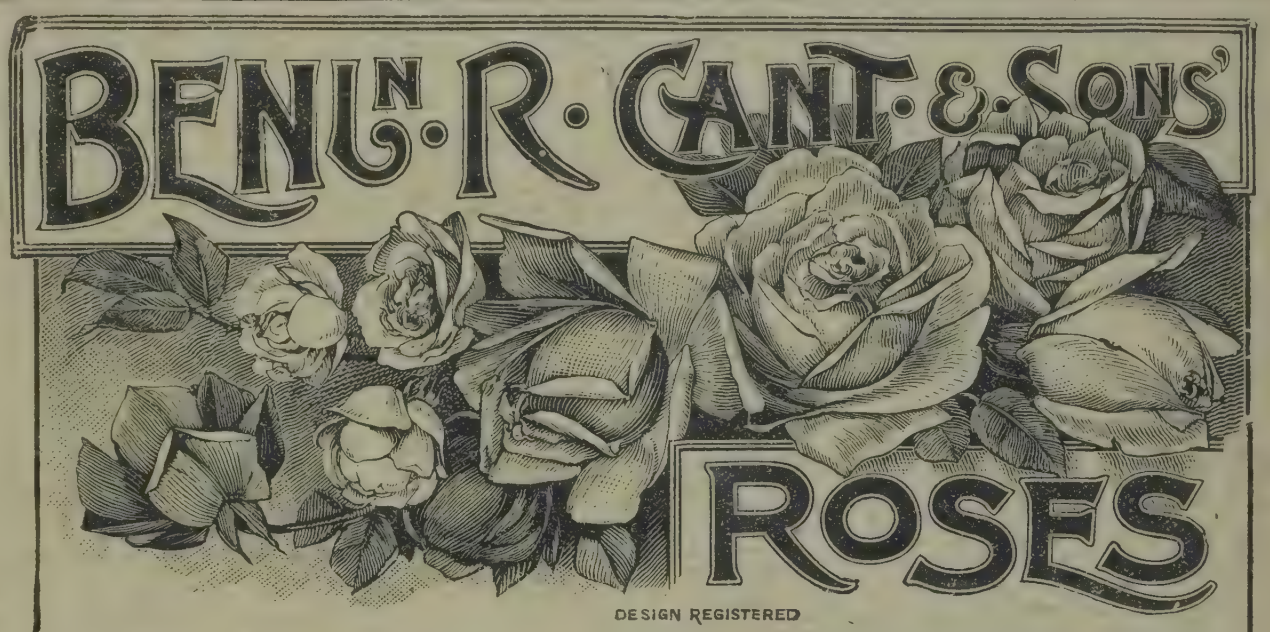

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

IN my last week's notes I dealt with the handling of layers during the winter months, and recommended controlment during unfavourable elements. Watch the birds in such weather and they look the very picture of misery, so that one can readily understand why on these days they *must* feel happier in their snug retreat. On some occasions confinement may be advisable for the whole day, and on others for but an hour or so. If the fowls were more sensible and retired to their roosting place when it rained, all would be well. But they will not do so, and, what is more, the sleeping house is not ideal for a "day" structure or shelter.

Buying Stock Cockerels.—"Shall I buy my breeding cockerels now?" asks Lady ——. This is quite a timely query. Personally, I strongly recommend poultry-keepers to buy their cockerels for the 1918 breeding season now. In more normal times it was usual to purchase the stock cockerels about January, but the chances are that the professional breeders will not carry a heavy supply of males, and later there may be strong competition for the birds. Those who can should purchase without delay and ensure success for their 1918 breeding operations. Although, as I have so often pointed out, the best hatching and rearing results will be obtained from cockerels mated to adult *hens*, many poultry-keepers may find themselves next spring with 1917-hatched pullets only. If these are used in the breeding pens, they should be mated to early hatched 1917 cockerels, unless adult cocks are at hand. If it is necessary to purchase males, I recommend for preference January or February hatched cockerels, which by now should be well-grown, vigorous birds. Then the owners will have age on one side of the mating, which is a desideratum.

Use of Acorns.—Of late many correspondents have asked for my advice on the use of acorns for fowls. I dealt with the question in THE GARDEN of June 23. Acorns have one great drawback in that they contain tannin, and if eaten in excess, poisoning is likely to be the result with certain birds. The symptoms are loss of appetite, wasting away and severe diarrhœa. Given in moderate quantities two or three times weekly, acorns represent a useful *supplementary* food, but they should not be given alone as a meal. As regards their preparation, the husks are best removed, when the nuts can either be put through a bone-cutting machine or be dried in the oven. In the former case the particles are added to the mash prior to drying off, while in the latter the dried nuts are ground into a meal. Storing, boiling and sprouting are three processes which tend to reduce the amount of tannin in the nuts. If placed in a heap and covered with hedge trimmings, leaves, sticks, &c., they can be stored for quite a long time, and when so treated the husks can be easily removed.

Value of Bone-Cutter.—To the poultry-keeper having vegetables, soft bones, acorns, horse chestnuts, &c., available, a combined bone and vegetable cutting machine should prove a boon. Having boiled the acorns and removed the husks, they can be cut into shreds in the cutting machine, and so prepared they are ready for feeding. One must, however, educate the fowls to take to the acorns kindly if they have not been accustomed to their taste. Introduce the acorns in a very small quantity and gradually increase until the desired amount is reached. It is a good plan where acorns are added to the mash to mix with the dry ingredients of the soft food Colman's Poultry Mustard at the rate of one teaspoonful to every dozen fowls. This acts as an appetiser as well as aids digestion. The same practice can be carried out when oil-cake meals are being brought into the soft food. The liquor in which acorns and horse chestnuts have been boiled prior to the nuts being minced should be thrown away. Another mode of preparation is to dry the nuts in the oven, remove the husks, and after passing them through the bone-cutting machine, mix the particles with the grain diet.

Marrows.—Some time ago a correspondent asked for my advice on a very troublesome matter. Her young stock accommodated in the orchard insisted upon flying into all the trees and devouring

A NEW BREED.

Black Mendel cockerel, the property of Mr. J. H. Burn-Murdoch, Great Shelford, Cambridgeshire. (*See text.*)

the fruit. Having satisfied myself from details supplied at my request that it was not due to short rations, I recommended an experiment. The lady owner in the same letter mentioned that she had a surplus of marrows and desired to know how to use them for her fowls. The idea struck me that if the young stock were given "something to do" they would be too busily occupied to continue their habit of fruit gathering. I suggested, therefore, that my correspondent should cut the marrows through into chunks about 3 inches or so deep, leaving the skins thereon. The marrows were to be introduced gradually, and in time to be scattered in all quarters of the orchard. At the close of each day I suggested that the "remainders" should be collected, washed, and boiled up for use in the soft food. My querist now writes to say that by following my advice she cured the vice of fruit gathering, and adds that the birds have greatly appreciated and benefited by the marrow chunks, clearing out all the centres and leaving the outer casings or shells only. These were boiled up as recommended.

Black Mendels.—Mr. J. H. Burn-Murdoch of Great Shelford, Cambs, sends me a snapshot and particulars of a new breed he has introduced, called the Black Mendel. The photograph is reproduced on this page. The breed is the result of experiments in scientific Mendelian breeding spread over fifteen years, and very many utility advantages are claimed for it. It is a black-plumaged bird, with bright red single comb and lobes, light-coloured legs, and a non-sitter laying *tinted* eggs. Quick maturity, splendid table qualities, early laying, active in foraging, eggs averaging 2¼oz. to 2½oz. each, and prolific winter laying are other strong points in this "combination" fowl. Every prospective egg from now to the end of next May has already been "booked."

The Moult.—Miss E. T. desires to know how to hurry her birds over the moult. They started well, but are now "hanging" in the moult, and are on *short* rations. In the first place, short rations are all right at the commencement of the moult, but directly the new feathers show an appearance the amount of food must be increased. The growth of the new feathers naturally throws an additional strain on the bird's system, which must be countered. The inclusion of linseed mash in the soft food will help the growth of the new feathers. Place half a pound of linseed in two quarts of water and boil until it becomes a jelly. Add a little of this to the warm mash daily. A strengthening tonic will also prove beneficial. Make a stock medicine by dissolving 2oz. of sulphate of iron in a gallon of boiling water, and twice or thrice a week for a time add a dessertspoonful of the mixture to each pint of drinking water. Collect all cast feathers daily, and confine the birds to their roomy scratching sheds on days when the weather is rainy or bitterly cold.

Number of Males.—Writing from Marlow, Sir —— wishes to know how many cockerels he will desire for a flock of eighteen 1916 Rhode Island Red hens. He intends to breed from the hens next spring and to obtain the cockerels now. *Two* males will be necessary to manage the flock of eighteen hens, and as I have pointed out in my reply by post, both should be purchased from the same breeder. The professional poultry-farmer favours the small flocks of six to eight females and a male, each lot being accommodated in a small house and wired-in grass enclosure. In addition, however, he often runs several flocks of eighteen to twenty females in a large house and enclosure, headed by two males. The small lots give the better results by way of fertility and hatching. Where, however, two males are used, they should be purchased from the same breeder, so that they will agree. If the vendor is asked to supply two cockerels that have been running together since they "pipped" their shells, he will arrange this and the birds will live amicably together.

Handling the Males.—It is unwise to allow males to run with the females all the winter, *i.e.*, if the best hatching results are desired next spring. Males should be separated from the females directly after the close of the breeding season.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.*

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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THE GARDEN.

No. 2399.—Vol. LXXXI.] [November 10, 1917.

NOTES OF THE WEEK

THE suggestion is made on page 480 that the Board of Agriculture and Food Production Department should institute a regular anti-clubbing campaign. The loss of wholesome food each year due to this low fungus disease must be enormous, and club in the Brassica family is apparently very much on the increase. An anti-club campaign is all very well in theory, but what are the remedial measures? One correspondent says the disease is favoured by decaying leaves, another by farmyard manure, and others disagree. One reader regards lime as a certain cure, while another has tried lime, gas-lime, quicklime, salt and chalk, all without success.

Remedies for Club in Brassicas.—Since the letters referred to were selected for publication, we have received two which contain good suggestions and may help to solve the difficulty. Mr. W. F. M. Copeland of Shirley, Southampton, writes: "I send a few lines on the article of one of your contributors, on his wail about clubbing. He could not have been a constant reader of The Garden, for I remember reading nearly two years ago that if you treated the young Cabbages to two drinks of Seride, obtainable from Mr. Gleeson, chemist, Watford, it would cure clubbing. Our garden is an impossible one in which to grow Cabbages or Sprouts or Broccoli, because of the clubbing; but with the use of Seride we are no longer troubled with this disease." The other letter, from Mr. A. Glenister, Bournemouth, is as follows: "Mr. Clarence Ponting asks if any reader has ever used Burgundy mixture to prevent clubbing in Brassicas. I have tried it this year. I got some Brussels Sprout plants and put them in the mixture a little while and then planted them, and I can say I have not found any club in them and it did not injure the roots at all. I do not know if the mixture destroys club, but I am going to try again this year to make sure. I have always used a mixture of soot, lime and paraffin—one tablespoonful of soot, one tablespoonful of lime, and two tablespoonfuls of paraffin to one quart of water, well mixed—and just dip the plants in. I have never had many plants with club, but I know that this old-fashioned mixture will help to keep it away."

Thatching Potato Clamps.—So many losses were incurred last winter owing to Potatoes being frozen in the clamps that most growers are now giving a heavier covering of soil than usual. It is a good plan to supplement this with a rough thatch of Pea or Bean straw, reeds, fern or hedge-brushings, kept in place with a few heavy branches. This not only serves as a precaution against severe frost, but it prevents the soil from being washed off the clamp by heavy rains. In the early part of this year the earth covering of some clamps was much disintegrated by frost, the soil coming away with large lumps of ice. A littering of some kind thrown over the heap will go far to prevent the recurrence of such disasters, and in cold districts it is wise to see that the sides of the ridge are not pitched too steep.

Planting New Vines.—Where new Vines are to be planted from last season's raising, the present is a good time to do this. No time should be lost in preparing the border, so as to enable the soil to settle down somewhat near its natural level. Borders of soil 2 feet deep are ample for a start, with satisfactory drainage of at least 6 inches in depth. Far too many borders are too deep, especially when they are wholly inside and under control. Borders too deep are expensive to make, encourage shanking and badly coloured berries, as the roots are too far away from the sun's influence, and the soil is more liable to waterlog, especially if it is of a heavy, retentive character.

Chinese Rhododendrons.—Some at least of the many new species of Rhododendron introduced into our gardens from China during the last twenty years are proving valuable garden plants. The worth of others has yet to be proved, but it is quite certain that, differing so widely in habit, they open up an immense new field for the hybridist. Little attention can be given to this interesting work while the majority of our young and energetic fellow-workers in the field of horticulture are engaged in the sterner duties of war, but, with their return to civil life, plant-breeding will no doubt be taken up again with renewed energy. The writing of this note is suggested in watching the development of the Chinese Rhododendrons at Kew raised from seeds collected by Messrs. E. H. Wilson and G. Forrest. To accommodate the increase in numbers and the size of the bushes, the borders devoted to their cultivation in the American Garden, near King William's Temple, are being considerably extended.

CARYOPTERIS MASTACANTHUS, A NOVEMBER FLOWERING PLANT.

A Decorative Oak.—Quercus Mirbeckii is one of the most ornamental of the hardy Oaks and a desirable tree for planting in any garden or park where there is sufficient room for its proper development. Although a deciduous tree, it retains its leaves until January, thus having at least two months' advantage over most deciduous trees. It is a native of North Africa and Portugal, where it grows to a height of 90 feet or 120 feet. Here it grows rapidly, forming a handsome, shapely tree of pyramidal outline with a well-branched head heavily clothed with oval leaves, which are up to 7 inches long and 3½ inches wide with deeply cut margins. It should be planted in deep loamy soil where it can have plenty of room for development, as if crowded by other trees much of its beauty is lost. It can, however, be planted with advantage in groups of considerable size, for it is not only a good ornamental tree, but produces valuable timber which in character is rather like that of Q. sessiliflora. The tree is perfectly hardy, and may be expected to thrive anywhere where the common Oak succeeds.

Caryopteris Mastacanthus.—The Blue Spiræa, as it is popularly designated, is a native of China, and is an excellent plant for the cool greenhouse during the late autumn months. Although listed as a hardy shrub, in many catalogues it is too late in flowering (at least in Scotland) to be of any value in the open. Grown, however, under cool greenhouse treatment it succeeds capitally and makes a really handsome and attractive subject, coming into bloom just when the ordinary run of summer flowers are on the wane. The inflorescence somewhat resembles in form some of the dense flowering Spiræas, such as S. Douglasii, hence its popular name. The colour of the flowers is bright violet, and they are freely borne on the shoots made during the previous summer. The foliage is fragrant and pleasing, pale green on the upper surface and hoary underneath. Treatment similar to that given to Hydrangea paniculata suits it admirably. Hard pruning in early spring, abundance of water and full exposure to sunshine during its season of growth will give good results.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

L'ANNEE CHAMPETRE.

PERHAPS I did not make it quite clear that my note on this was a quotation from the "Bibliographie Universelle." The responsibility for the truth of its information is not mine, happily.—E. A. B.

PARSNIPS.

PARSNEPS, Panais (in French), Pastinaca (in Italian).—The Parsnip is one of the most wholesome and plentiful vegetables one can have at this time. It is not to be found in any modern French or English cookery book except for flavouring and for eating with salt cod. But in *bourgeois* houses in France and Italy, in America, and in those houses where old recipes are cherished it is used fried, boiled, stewed, cold as a salad, in every way the same as a Cauliflower, a Jerusalem Artichoke, a Carrot, or a Turnip, &c., is used. My recipes date from one of Mrs. Raffuld, 1776; one of Dr. Kitchener, 1829; and several modern ones of M. Delicé, a French chef of an American club of some forty years ago.—MARY BEALE.

POTATO PUDDING.

I ENCLOSE a recipe for Potato pudding as asked for by Mr. Goodwin: ¼lb. Potatoes, 2oz. butter, 2oz. sugar, two eggs, half a lemon. Mash ¼lb. Potatoes while hot, mix in butter and sugar, add eggs, mix, add lemon. Bake in a moderate oven for twenty-five minutes.—HON. MRS. L. SOLTAU-SYMONS.

POTATO MIDLOTHIAN EARLY.

THIS Potato at its best is so good that one cannot wonder at its being appreciated and recommended. Yet in 1915 many growers had a terrible experience with it, Scotch, Cambridgeshire and other stocks which should have been of the highest class being so hopelessly bad that the crop was worthless. The haulm was puny, the foliage miserable, and the seed tubers remained undecayed. "Curl!" ejaculates the reader, naturally. But mycologists failed to find either Macrosporium Solani or any other fungus in the plants, and seemed disposed to attribute the trouble to purely physiological causes. Duke of York (very like Midlothian Early), May Queen and certain other varieties were similarly affected. King Edward VII. was not entirely free. I did not see the trouble in 1916, nor have I seen it this year. I do not expect to see it to any extent in 1918, because I believe it to be largely due to dry conditions in the previous summer. It is not, as some suppose, due to overheating in the clamps. I shall be glad to hear if any readers have had the trouble with Midlothian Early this season. If not, I shall be emboldened to grow it again.—W. P. W.

CLAMPED POTATOES AND FROST.

THE concluding lines of Mr. Garner's article on Potatoes, issue October 27, page 462, which read "In very severe weather short litter laid over all (the clamp) will keep out many degrees of frost," should prove of benefit to those who think the clamping of Potatoes is finished when the earth is applied. Given an ordinary season, the average clamp will keep out all frosts. However, a season such as we experienced last year will find out the weak spots and penetrate to the tubers, with disastrous consequences unless extra protection is afforded. Short litter is admirable for this purpose; but who in these days can place his hands (metaphorically of course) upon this wonderful by-product of the extinct animal—the horse? However, this war has proved the correctness of the old saw, "Necessity is the mother of invention." Such necessity was responsible for my adopting the present method of affording my Potato clamp the extra protection needed in case of extra severe frosts—nothing which cannot be found in the average garden; simply old Pea haulms and the cleanings of the Asparagus-bed. The Asparagus foliage is cut when yellow and placed on and round the clamp. On this is piled the whole of the Pea haulms, which serve to keep it in position. Neither do I wait for these terrible frosts to come before adding this protection. My clamp is protected in this manner as I write. The clamp will not be opened until February at the earliest, for sufficient tubers are kept in sheds for immediate needs. Another good idea regarding the clamping of Potatoes is to make the clamp, where possible, under the sheltering boughs of some fruit or other tree. It is wonderful how such protection breaks the frost.—CLARENCE PONTING, *Great Missenden.*

SUGAR BEET AND BROWN BEANS.

I AM personally grateful to Mr. Ronald C. S. Ross for adding another prick to the Sugar Beet bubble, and can endorse all he says in praise of Dutch Brown Beans. My little lot were not sown until quite the end of May, and the land (very light loam with sharp drainage) was prepared very indifferently. But from the first the Brown Beans came away with surprising vigour, every seed germinating. They were never watered, yet, though the drought was serious at times, there was no shedding of blossom or other indication of suffering. At the end of September the plants were pulled up and suspended by the legs in an airy shed to dry. I am now shelling, and there is a bumper crop. Many of the little plants carry at least twenty pods, often more, and the Beans in the latter usually number five or six. I am inclined to think that this Bean is not nearly so deep-rooting as the ordinary kidney varieties. It has, nevertheless, proved itself to be a good subject for a hot, dry border.—A. T. JOHNSON.

APPLE GLORIA MUNDI.

THIS Apple has of late come in for much adverse comment, but I think if those who have spoken so disparagingiy of its quality had seen the wonderful specimens so freely displayed in the principal winning collections at the recent fruit show of the Royal Horticultural Society they would have thought they were somewhat premature in their remarks. Certainly as an exhibition variety this Apple has much to recommend it. It grows large enough, has a clear skin, and is of undoubted good shape.—S.

RUBUS KOLLERI.

IT may perhaps be as well to point out that the name of the Blackberry recommended on page 431 should be written *Koehleri*. The misspelling may cause disappointment to those who fail to trace the name in that form.—JAMES BRITTEN, 41, *Boston Road, Brentford, Middlesex.*

GREEK COLOUR PERCEPTION.

A CURIOUS light is thrown upon the colour sense of Mediterranean peoples in a passage which I have before quoted in THE GARDEN from the ever-delightful "Old Calabria" of Norman Douglas. Speaking of the Calabrians, he says: "Of Blue they have not the faintest conception. . . . Figs are white or black [hence I suppose our White and Black Ischia], Wine is white or black," &c. The author asked a lad as to the colour of the sea, in his own eyes a brilliant sapphire blue. The reply was "A sort of dead colour." The sky on a cloudless day is "white." A Beech in full leaf is "half black" or "tree colour." "Rosso" is not red, but rather dun or dingy, all of which will make us careful in discussing what Homer or other writers meant by their colour terms.—E. A. BUNYARD.

COLOUR IN RELATION TO PLANT LIFE.

MR. H. H. WARNER'S article (page 459) is so interesting that few lovers of Nature can read it without being led away into one or other of the enchanting by-paths to which he points the way. I have often thought (or I may have read it somewhere) that the crimson and bronze red of the new shoots of the Rose may serve the same purpose as the red in the flowers mentioned by Mr. Warner. That is to say, if it were not for this red colouring in the young growths of the Rose, would not those tender tips be more liable to be scorched by the summer sun? The crimson in these sensitive shoots is presumably the product of sunlight, since those growing in the shade remain green. But that does not of necessity imply that the sun which threatens to burn may not also be the source of the protective screen.—A. T. JOHNSON.

CLEMATIS PANICULATA.

NEARLY all outdoor flowers here were killed by a very sharp frost on the night of October 27. Against a west wall the Japanese Clematis paniculata is now in full flower, and we are finding its sprays most useful for table decoration, especially when blended with branches of Berberis Aquifolium, which always takes on its ruddy winter tints after the first frosts. "Nicholson" gives its flowering season as July–August, but this is an *obvious* error, as it never opens here even in late September.—A. R. G., *Kidderminster.*

AUTUMN-FLOWERING CROCUSES.

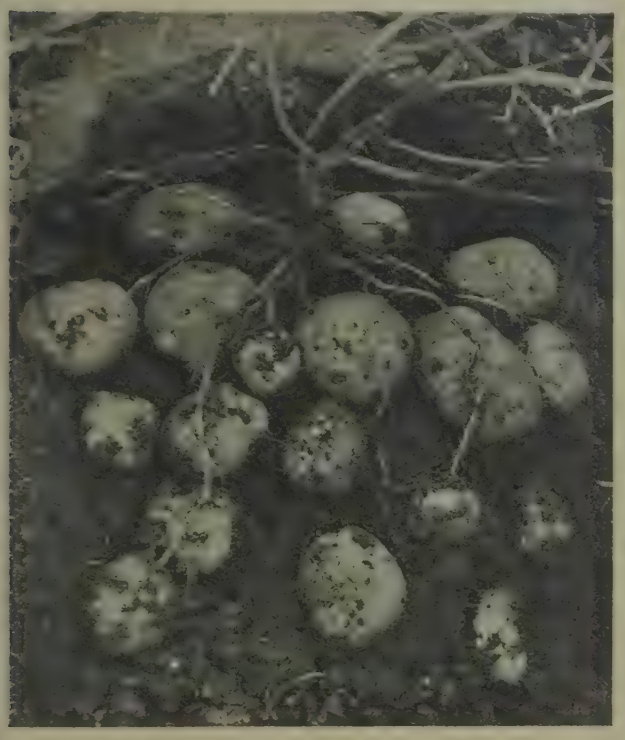
GARDEN lovers are hardly alive, I think, to the merits of the autumn-flowering Crocuses. C. speciosus sows itself freely about the garden, but it is always welcome because it never encroaches. To my surprise and pleasure I found self-sown zonatus in the grass at the edge of the lawn. Its charming flowers are, unfortunately, very fragile, so are much battered about by autumn storms. A variety of the Snowberry with clustered fruit, sent out by Messrs. Wallace, is very attractive now.—F. A. STURGE, *Coed Efa, near Wrexham.*

WEED-KILLING REMEDIES.

I HAVE read with interest in recent issues of THE GARDEN many and varied methods used for the killing of weeds on lawns. My unfailing method is to mix weed-killer in the ordinary way as for a gravel walk, but made a little stronger. This is applied by a machine oilcan with a little plug in the spout so as to allow no more than rather fast drops to issue and drop into the middle of the Plantain, Dandelion or whatever weed it may be. Nothing further is required; no digging or moving any grass or cutting the tops of the Dandelions, as one of your correspondents recommends. Use two garden lines so as to be a guide as to what is done. This I consider the neatest and most effectual method of destroying weeds on lawns. If done in the early spring the grass will, before the summer is over, quite cover up the little bare places left by the death of the weeds.—W. H. LAWRENCE, *The Gardens, Green End House, Little Munden, Herts.*

POTATO GORDON CASTLE.

WITH a view to testing the keeping qualities of this Potato, of which I have an extremely high opinion, I cooked samples of the 1916 crop on August 3 and 4 and found them excellent,



A ROOT OF GORDON CASTLE.

retaining that high flavour which marks this late variety as one of the best in existence, apart from its heavy cropping properties.—E. M.

[We endorse the good opinion of this weight-producing maincrop Potato. Not only is it a heavy cropper, but the quality leaves nothing to be desired. The tubers are attractively russeted—always, we think, a sign of quality in a Potato. Everyone has his favourite Potato, and this is ours. Seven pounds of seed tubers from Messrs. Sutton and Sons gave over 60lb. of good tubers and very few small ones. We gave a few tubers to a Potato expert, who reports them as being of the finest table quality.—ED.]

DRYING POTATOES FOR STORING.

I CERTAINLY agree with your correspondent "T. A. W.," page 417, that the sooner Potatoes are gathered up and clamped, in a season like the present one, the better, and the practice of washing before storing is quite unnecessary. All the same, tubers are the better for being dry when stored, and I should still urge growers to store them in that condition whenever possible. The tubers need not be perfectly dry, and no risks of frosts should be run, nor should the tubers be exposed to the sun for long, or they will turn green and become unwholesome for food. Digging Potatoes on heavy land is a hard business this season, and for those who are compelled to store their crop while wet with the mud adhering I would support "T. A. W.'s" suggestion of dusting a little lime among them in the store, otherwise difficulty in getting them dry will be experienced. I am not bothered with heavy soil this time, although I have hitherto always had heavy clays to deal with.—L. M. M.

FLAVOUR IN APPLES AND PEARS.

"ANNE AMATEUR," writing in your issue of October 20, says that "tastes differ"; she afterwards proceeds to remark that there s no excuse for growing Pear Conference, which, n her judgment, belongs to the "greengrocers' shop window" and "hotel dessert" class. In the very same number of your paper Mr. E. A. Bunyard writes of Conference, "If only one Pear is to be grown, this is the one." Evidently tastes do differ, with a vengeance. Then, pray what has Cox's Orange Pippin done to be classed by "Anne Amateur" as an awfully overrated Apple? Can she name even, say, half a dozen that excel it in flavour? The only Apple that I have yet tasted even to equal it is American Mother *at its best*; and the only other individual I ever met who shared "Anne Amateur's" opinion of Cox's Orange Pippin was a former gardener of mine who had somewhat impaired his palate by the excessive use of Tobacco, *in more ways than one.* But "that's another story," as a Sussex neighbour of mine remarks, and I should be sorry to be so unmannerly as even to hint that such a failing as this could be laid at the door of a lady. To be serious, although I admire and enjoy a great deal of what "Anne Amateur" writes, I am disposed to think that very few good judges will agree with her extraordinary and peculiar taste in fruit.—F. H. C.

GROANING SHELVES—HOME BREWED—ONIONS—AND "CLUB."

BEING one of the "laugh and grow fat" folks—who, for the first time in our lives, find ourselves in favour, as we require less food than the "lean kine"—a fact which, as a Domestic Food Controller, I have often noted—I laughed right merrily at Mr. Goodwin's reference to my "groaning shelves," for, though well laden, my shelves do *not* "groan." All the "groaning" was done by my architect (now at the Front) at what *he* considered my outrageous extravagance in insisting on the shelves being made of solid slabs of slate. I foresaw that, owing to the remote inaccessibility of this spot ("it's a long, long way" from Kidderminster), ice would be practically unprocurable; so my larder and store-room face north, and have no woodwork except the creosoted doors and window frames. Iron brackets support the slate slabs, strongly set in the smooth, hard plastered, damp-proof walls, and the floors (tell it not to the Huns) are of *solid concrete!* I was greatly interested in the resourceful landlady and her "home brewed"—just the sort of thing Mrs. "Busy Bee" would do! I have made many home-brewed wines, and now am embarking, per Mr. "Busy Bee," on a first attempt at cyder-making, using honey in place of sugar. I am glad—no! that is wicked—*consoled* that other folk's Onion crop, like mine, falls short. However, we are not weeping over our Onions (until they are peeled), as we have a splendid store of Shallots. I have "read, marked and learned", Mr. Beckett's most valuable advice *re* Onions, and hope next year "inwardly to digest" the result (though I have no desire to emulate his unwieldy, *large* specimens). At the imminent risk of being brained with a Brussels Sprout stump by Mr. Ponting (who is evidently *desperate* and would spare neither my sex nor age) I here record that I do not know what a "clubbed" Cabbage is like, and I "lime" my ground freely.—ANNE AMATEUR.

SEEDLING NERINES

ANOTHER batch of these flowering for the first time, and a bigger batch than ever this autumn, lends distraction and brings a little bit of sunshine into what has been a clouded and sad year for the writer. One forgets one's troubles when contemplating a group of them with the morning sun shining upon them, the pale forms glistening like frosted silver, the darker ones spangled with gold. Preference is just a matter of taste between two distinct types, the one with broad, flat segments (the florist's flower this), or the type in which probably flexuosa or crispa has been used as a parent, and in which the segments are crinkled throughout most of their length and are usually narrower. Many look upon autumn as perhaps the most depressing season of the year; but I am in agreement with a friend who told me that for him it was mitigated by two things—the enjoyment of a good Apple and the contemplation of his Nerines.—A.

THE HEIGHT AND COLOURS OF TULIPS.

MR. GEORGE DILLISTONE writes so charmingly and so accurately that one hesitates to criticise anything he says, but on comparing the advice he gave in your issue of the 13th ult. with the Report of the Tulip Nomenclature Committee, there is a conflict as to the height of Tulips of the warm colours. Among the tall red varieties of Tulips, Mr. Dillistone gives, *inter alia*, John Fraser. In the Report John Fraser is thus described: "Type I. (this refers to colour), small, very like Murillo, the height of which is given as 15 inches." There is, therefore, no justification for describing John Fraser as "tall and splendidly regal." Among Mr. Dillistone's dwarfer varieties I find Inglescombe Scarlet (26 inches), Globe of Fire (30 inches), Flame (27 inches), Orange King (29 inches) and La Merveille (26 inches). These might well be advanced to the taller section. I only mention these discrepancies in an admirable article in case some of your readers may be disappointed in expecting dwarf varieties, only to find they have tall ones, or *vice versâ*. The Report of the Tulip Nomenclature Committee recently published by the Royal Horticultural Society is well worth every Tulip grower buying it as a work of reference. It is a pity, however, that the names are not in alphabetical order.—B., *Weybridge.*

*** Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforehand.*

GORDON CASTLE FROM 7LB. OF SEED.

"CLUBS"

AN AFFLICTION OF THE BRASSICA TRIBE AND THE NECESSITY OF A REGULAR ANTI-CLUBBING CAMPAIGN.

SOMETIMES I must bow to the inevitable and crusade no more against a thousand-headed, pestiferous alliance of insect and fungus. At which time I shall get me to my water-cask—with swelling middle like a city alderman—and cogitate upon the sorrows of a new Diogenes, or meditate a fresh philosophy of gardens.

Until then a practical world demands that I shall quit such dreams, and realise a faint but libellous ambiguity about the tub. It is of sound wood, brown and solid, yet even there the fungus would soon rival me for its possession. What's to do? Only on October 20 last THE GARDEN came forth with solemn warning, "clubbing in Brassicas will sooner or later visit all gardeners." My doleful way may, after all, be quick with pilgrims making dismal satisfaction out of common woe, and exchange of remedies. Companions in misfortune! That I own is distinctly comforting, for since taking over an allotment in September of last year, nothing else has met me but one-time *healthy* Brassicas making no progress, a prey to blue aphis, shamefaced and wilting in the honest sun—"clubs" in size from Cocoanuts, gnarled to the liking of primitive man.

There is a commercial possibility in growing the giant Cabbages of Jersey in that allotment for shipment to the few tribes which still look upon the casual missionary as a heaven-sent blessing of dietetic value; or to fill the hold of some Irish-bound merchantman with their huge stems and knobbled roots for sale in the shillelagh markets of the distressful country.

Now (*revenons à nos moutons*), unlike Mr. Ponting, my Kohl Rabi has suffered from it, but the crops were little affected, and the Turnips do not seem infected in any way.

I am unable to say whether liming has had an entirely good effect, but the clubbing is not worse. Indeed, one can scarcely see how it could have been. The soil is sandy loam with practically no leaf-mould, and as the nearest trees are not less than 100 yards away, I cannot attribute the spread of the fungus to this agency. Shepherd's Purse flourishes like the proverbial green Bay tree in the neighbouring plots and along the hedge-row with hardly any systematic check. When transplanting infected seedlings of Cabbage, the galls were cut off and the roots dipped into a puddle of lime, soot and wood-ashes, an ancient "wheeze," with good results. The permanent quarters were limed in readiness, and those plants grew away with only about 9 per cent. clubbed.

In June, having laid in a stock of Strawsonite, I dibbled in half a score each of Brussels Sprouts and Kale with a generous dose of the mixture made up with water to the strength for Potato spraying, and about a month later gave a dusting of the powder to each root and watered it in. The two batches were purposely set in different parts of the garden so as to give the spores every chance of doing their worst. So far from harming the seedlings, eighteen of the score are the best grown and healthiest members of the Cabbage tribe in the garden, the other two—Brussels Sprouts—being slightly clubbed. Before passing final judgment on the merits of Bordeaux or Burgundy mixtures as a cure for anbury, I shall have to make more exhaustive tests, but there certainly seems a promise.

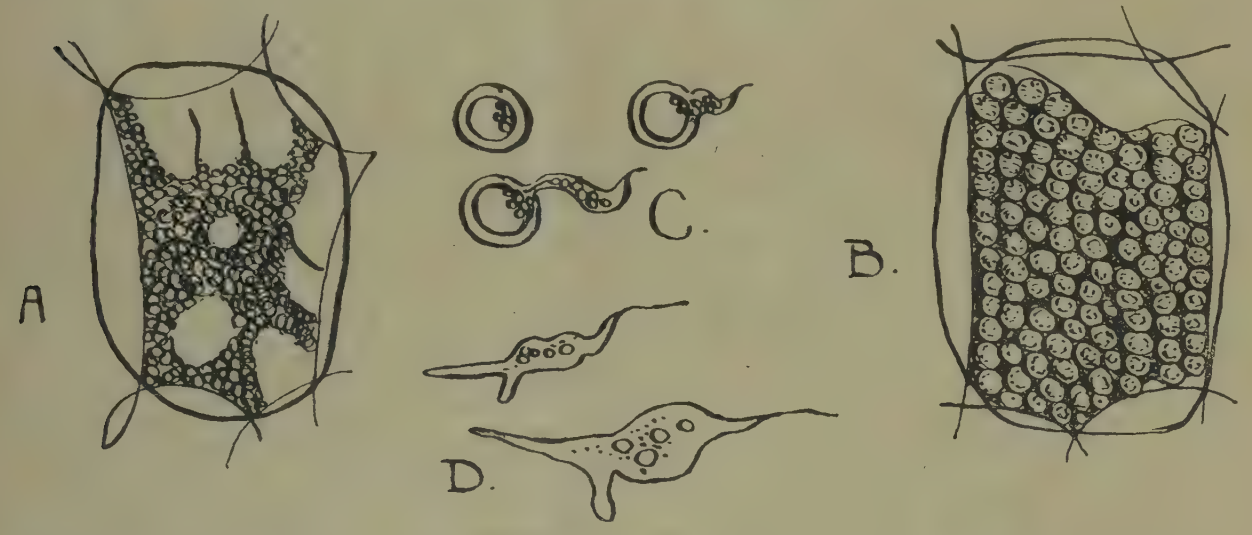
On a new piece of grassland (25 miles from the other allotment) newly turned in spring as a war plot, I planted three score of very sturdy autumn-sown Cabbages. Every plant was infected and quite worthless in a few weeks. I might say that a prolific crop of Charlock appeared after the turf was out of the way, and doubtless the infection was retained by this host plant.

The enclosed drawings are after those in that very admirable Sutton's Guide referred to by Mr. Ponting. (A) Protoplasmic condition of the fungus; (B) spore-producing stage; (C) spore development, showing a tail for writhing through the soil; (D) stage in which they enter the root-hairs to again assume protoplasmic condition. By the scale I should judge A to be 1-600th of aninch long.

It would be no bad plan if the Board of Agriculture and Food Production Department instituted a regular anti-clubbing campaign on similar lines to this year's Potato spraying movement. The total loss must be of enormous value.

In a microscopic world of enemies there is no time for the honest man to ease his weariness at "The Gardeners' Rest"—I nearly wrote pest!—and the philosopher's tub is as far as ever.

RONALD C. S. ROSS.



VARIOUS STAGES IN THE LIFE OF THE LOW FUNGUS RESPONSIBLE FOR CLUBBING IN BRASSICAS.

IN a number of more than ordinary interest and helpfulness it would be invidious to make comparisons, but, personally, I think the most striking feature in THE GARDEN for October 20 was Mr. Clarence Ponting's article on "Clubbing in Brassicas." I have known this "affliction" for more years than I care to remember, but not quite so intimately as some other gardeners, and for this latter I am truly thankful. The most original point in Mr. Ponting's article was the suggestion that the use of leaf-mould is more or less responsible for the appearance of this dreaded pest. In this garden I had never before had "club" until this year, and its appearance is coincident with a heavy dressing of half-decayed leaves dug in in spring.

These leaves had been used as a winter mulch for Globe Artichokes, and to save the labour of removal were dug into the adjoining vacant vegetable ground. The ground was planted mainly with Potatoes and Beet, and these have done well; but one vacant strip was used as a seed-bed for the July-sown Cabbages, and these "clubbed" badly in the seedling stage. To fill out the row, which was too long for my requirements in Cabbages, I dusted in a little seed of Golden Ball Turnips, and these, too, have "clubbed" badly. So much for confirmation; but what of the fact that in my last garden, in which I used very heavy dressings of leaves each season, "club" was never present? The soil there was a heavy grey clay. Here is another remarkable fact, and I hope Mr. Ponting will forgive me for mentioning "lime." On a large farm on this estate, for many years the Turnip crop was a most precarious one on account of finger-and-toe. For the last seven or eight years an annual light dressing of ground agricultural lime has been applied just before sowing, and finer crops of Turnips, both common and Swede, one could hardly wish for. I am awaiting with much interest the experiences of other readers with this fungus.

Preston Gardens, Linlithgow. C. BLAIR.

As a fellow-sufferer I can sympathise with Mr. Clarence Ponting in his experience of "club" in the Brassica tribe, and although I have tried many supposed remedies, I have not yet succeeded in defeating the pest, and I have almost given up all hope of doing so. However, I get some amusement out of trying to conquer "club." It admits of no doubt that hereabouts "club" attacks seed-beds, and practically every seedling of Brassicas raised in my garden this summer had to be burnt. I am now trying my luck with some plants one well known to many of your readers kindly gave me a month since. These were raised on heavy soil and promise well, so I may yet succeed in getting some greenstuff in the terrible times which are predicted. Mr. Ponting tells your readers how seed sown in soil on which Brassicas had not been previously grown, but mixed with stable manure and Beech leaf-mould, resulted in every one being "clubbed." He alleges that it was no doubt due to the leaf-mould. I venture to differ from him, as I do not use leaf-mould, but I do dig in stable manure. For some time past I have wondered whether stable manure does not increase the spread of anbury, and I am encouraged to do so by the experience of a neighbour, who tells me that he has had no "club" in his garden since giving up stable manure and using fowl-manure instead. Fortified by my friend's experience, I mean to try his dodge. Anyhow, I cannot be worse off than I am now, and I have tried gas-lime, quicklime, salt and chalk, and have kept Brassicas off some of my ground for three years, but without success.

Weybridge. B.

THE CULTURE OF FRUIT TREES.—VI

(*Continued from page* 476.)

CHERRIES.

IN using the word "Cherries" in this country we include all the varieties, sweet and sour; but in France every peasant will correct you if you refer to a "Guigne" as a "Cerise." This is not merely a matter of terminology, as it represents a distinction which we should do well to realise better in our gardens. The Bigarreau Cherries are descended from Prunus Avium, which is a large tree, rather fastidious as to soil and drainage; while the sour Cherries, descended from P. Cerasus, are much more cosmopolitan in their habits, and few indeed are the gardens in which they will not grow, as witness their best-known representative the Morello. They are emphatically more garden trees, making compact bushes or small standards for the most part, while the Bigarreau race demand space to stretch their wide branches and are suited for the orchard rather than for the garden. In the "Duke" race, so called, of which May Duke is a well-known representative, we get an intermediate type resulting from the crossing of the two sections, and these are very suitable for garden uses and deserve wider cultivation.

In regard to culture and choice of the form of tree, all the remarks made under the Plum will apply with added force. Lime, freedom to grow naturally, and absence of pruning, so far as possible, are conditions of success. A warm, light soil is necessary, the poorest sand being better than a clay subsoil, and very important to add is the danger of too much nitrogen in the young stages of growth. Hundreds of trees are annually killed by kindness; in this case the manure cart. No manure should be given when planting, and an old garden soil is often too rich in nitrogen for young trees. When they are old and established, it is quite another matter, and orchard trees then amply repay for rich feeding.

For walls fans are the best form, and in many gardens I notice the most successful trees are those which have been allowed to grow to their own devices rather than to the strict device of a well-shaped fan. Cordons are hardly a great success for the same reason, though planted under glass they can be made to grow wisely and not too well by careful regulation of the water and food supply. In choosing varieties it is not so easy to give a short list as in the other fruits, as there are really three distinct races: the Bigarreaus, with firm flesh, yellow or black; the Guignes; with tender flesh, white or black; the Cerises, or sweet, soft-fleshed Cherries with just a touch of the bitter Morello flavour, and those of the same class with a sharp astringency usually confined to kitchen uses. I will therefore name a few in each section.

The White Bigarreaus (Firm-fleshed Sorts).

Kent Bigarreau (July).—A wonderful cropper, making an enormous tree. Fruit sweet, but not particularly rich. For the aged and impatient I remark that a standard will take about six years before it gives much of a crop.

Napoleon.—Quite the best of the firm Bigarreaus, very large, brightly coloured and of good flavour when well ripened. (Please do not judge from "market" specimens.) It makes a strong tree and crops regularly. My own enthusiasm, however, is reserved for the

Soft Bigarreaus.

Governor Wood (Early July).—This is doubtless the best Cherry for small gardens, the flesh very tender and sweet. Remarkably prolific, and nearly always at the post when the Cherry season starts. Makes a compact tree. If only one Bigarreau is wanted, this is *it*.

Elton (Mid-July).—A beautiful fruit, rather tender and uncertain in cropping, but one to be included in the epicure's list. Best on walls in most gardens.

Black Bigarreaus.

Noir de Guben (End of June).—A large dark red fruit, very sweet and rich, quite fertile, and most excellent under glass or on a wall.

St. Margaret's (End of July).—"An exceedyng great Cherye," very firm and, be it said, a trifle difficult of digestion to some. Makes a large tree. Noble, a recent introduction, proves to be the same variety.

The Black Geans.

These are, to my mind, the best of all Cherries, and the public who buy rather than grow are beginning to find them out. The black Cherries of this type now generally fetch a higher price in the market than the Bigarreaus.

Early Rivers (End of June).—The first of its class, and a most delicious fruit. Forces well under glass.

May Duke (End of June).—A very well known sort of upright growth, not always very fertile, but makes a good garden tree.

Waterloo (Mid-July).—The sweetest of all Cherries. Makes a neat, round-headed standard suitable for garden uses.

Ronald's Late Duke (End of July).—A large fruit, very sweet when well ripened, and the most fertile at this season.

I should like to have added Royal Duke to this selection, as its flavour is most delicious; but, alas! it so seldom crops well that it will be evicted from most gardens. To quote the immortal Balmy Walters, "very pleasant and enjoyable indeed, . . . from time to time."

The Red Geans.

This is a class of Cherries little grown, but to my mind most desirable. They have a very slight Morello bitterness which is very attractive, and the flesh is as melting as a Grape.

Belle d'Orleans (Early June).—A bright red fruit, flesh pale yellow, very juicy.

Nouvelle Royale (July).—Rather dark red, growth compact, very hardy and fertile.

Duchesse de Palluau (End of July).—Very large, dull red, extremely juicy, and of a very distinct flavour. Most highly recommended.

Morello Cherries.

Though generally planted on walls, they should also be tried as bushes. They make nice round-headed trees not over 8 feet or so in height, and fruit amazingly.

Morello.—This is well known to every gardener.

Coe's Carnation.—A later form of the Morello, very useful to prolong the season, very hardy and fertile.

The Red or Kentish Cherries.

These, again, are but little grown out of Kent. They are most useful for cooking and drying, while jam made from them is in a class by itself. The problem of returning the stones to one's plate is not yet solved, but even Royalty experiences these difficulties, as Calverley tells us

". . . and as they ate,
The stones all coyly reappeared on each illustrious plate."

Kentish (Mid-July).—A large fruit of a bright agate red, not very prolific, but quite average.

Flemish (End of July).—A later and smaller form of the same, extremely prolific, and well worth growing as an ornamental tree. Both in flower and fruit it is most beautiful.

Olivet.—A large edition of the above, vigorous in growth and excellent in flavour.

Though these are classed as cooking Cherries, they are, when well ripened, very refreshing and pleasant on a warm day. There are many other sorts, and among a collection of these I have on trial I hope to select later varieties which will carry the season on for quite another month. All these "Kentish" varieties should be tried in gardens where other Cherries do not usually succeed, both as standards and bushes. A tree in the shrub border will astonish those who have not seen them before, as the transparent red fruits make a picture not easily forgotten. Birds do not worry them so much as the ordinary Cherries.

E. A. BUNYARD.

The Manure Problem

EVER since the advent of the "petrol horse" the supply of horse-manure in or near our large towns has each year steadily decreased, and although, thanks to the more stringent rules now laid down for observance by owners of motors, the horse has almost regained his lost popularity, one is pretty safe in saying that owing to the enormous increase in allotments and small holdings during the last twelve months, and in the absence of a fixed price for horse-manure during the winter and early spring, not only will the supply fall very short of the demand, but this only to be had at very high prices. The sooner this fact is realised and the warning it contains heeded by the small grower or the gardener who has to depend on outside sources for his supply, the better and more profitable are next year's crops likely to be.

Those who at the present time are in a position to get either horse, cow, pig or sheep manure should on no account let the opportunity slip, for even though it may not be convenient to use it for many weeks or months, if stored under good conditions it will not only be of far more benefit to the crops it is intended to assist than if allowed to remain in the usual large heap until the spring (by which time much of its goodness will be lost), but be always close at hand. Thorough ground preparation may be undertaken at any time during the winter without the loss of time and temper, which is too often a feature with many who rely upon the local man to deliver manure on a certain morning, but who invariably fails to perform what he has promised.

Whenever possible, the manure heap should be made on the square, two ordinary cartloads making quite a nice stack, and if this is built with care it need not be objectionable to anyone. The top of the heap should be covered with boards or sheets of corrugated iron, thus keeping the mass from becoming sodden after heavy rain or snow and preventing the waste of valuable plant food. When no covering is possible and the heap has to be made in an exposed position, it will be found a good plan to sink a tub or large pail at the lowest corner and convey all the liquid manure running from the heap into this by means of shallow channels on each side.

Possibly the best use to make of the drainings from such a heap is to pour them over another heap made in a large hole near by, into which all decayable garden rubbish, weeds or leaves are placed

and allowed to remain until next March, by which time it will be a capital addition to land upon which it is intended to grow any of the Cabbage tribe or Peas. Last spring we dressed a very light portion of our garden with nothing but this, and the results were most satisfactory; while the appearance of a bed of Broccoli at the time of writing, growing upon ground which for two years has had no other manure than these clearings up of leaves, &c., leaves nothing to be desired. F. R. C.

LAURUSTINUS

FOR the common Cherry Laurel, which is no Laurel at all but simply a wolf in sheep's clothing, I have the usual Robinsonian contempt; but for the Laurustinus, which, again, is no Laurel but a Viburnum, I have an affectionate regard. In my new garden I am glad to say it thrives splendidly, though during last winter almost every flower-bud was killed. But

"From dearth to plenty, and from death to life,
Is Nature's progress, . . ."

and so my Laurustinus bushes set to work to reclothe themselves anew and, heigh presto! as the conjurer says (Dame Nature is ever the trickiest of them!), here they are in *November* smothered with little bouquets of expanded flowers that are full of buzzy insects when the sun is shining. As an antithesis the bushes are also set with numbers of *late* flower-buds which will open (weather permitting) soon after Christmas, so that we shall be able to say in the words of James Montgomery:

"Fair tree of winter, fresh and flowering,
When all around is dead and dry;
Whose ruby buds, though storms are lowering,
Spread their white blossoms to the sky:
Green are thy leaves, more freely green,
Through every changing period seen;
And when the gaudy months are past,
Thy loveliest season is the last."

Parkinson knew this plant as "Laurus Tinus (sive) silvestris. The wilde Bay tree." His description of it is so apt that, though he wrote almost three centuries ago, it would even now be difficult to write a better. He writes: "This wilde Baye groweth seldome to bee a tree of any height, but abideth for the most part low, shooting forth divers slender branches, whereon at every joynt stand two leaves, long, smooth, and of a darke greene colour, somewhat like unto the leaves of the Female Cornell tree, or between that and Baye leaves: at the toppes of the branches stand many small white sweete smelling flowers, thrusting together, as it were in an umbell or tuft, consisting of five leaves a peece, the edges whereof have a shew of a wash purple, or light blush in them, which for the most part fall away without bearing any perfect ripe fruit in our Countrey: Yet sometimes it hath small black berries, as if they were good, but are not. In his naturall place it beareth small, round, hard and pointed berries, of a shining blacke colour, for such have come often to my hands (yet Clusius writeth they are blew); but I could never see any spring that I put into the ground."

Cato (about 450 B.C.) mentions three kinds of Laurel—the Laurus Cypria, Delphica and silvatica, and by the last was evidently meant Viburnum Tinus.

Nicholson gives the date of its introduction into England as 1596, and mentions nine varieties, as follow: Frobelii, hirtum, lucidum, strictum, virgatum, purpureum, pyramidale, rotundifolium and variegatum. Of these I grow only lucidum, from Mount Atlas, with handsome glossy green leaves and large clusters of pure white flowers. The true plant is scarce, but it can be obtained from Messrs. Gauntlett of Chiddingfold, and is a really fine thing. It came through the past winter with only the loss of its flower-buds.

[Flowers of Laurustinus are sent with this note, and accompanying them are some sprays of Darwin's lovely Berberis and the fragrant spiky racemes of the Willow-leaved Veronica, both of which (like the Laurustinus) are now making up for the time they lost in the spring and early summer.—ED.]

By the way, why do Messrs. Gauntlett and Mr. T. Smith of Newry spell the word Laurestinus? It is equally incorrect to spell it Lauristinus, as is done in "Flower Lore." A warm, sandy soil seems to suit the Laurustinus, and where it is not exposed to keen north and east winds it makes a fine boundary hedge. Good plants can soon be obtained by layering branches of established bushes. In the "Language of Flowers" Laurustinus is said to be the emblem of cheerfulness in adversity, so its flowers are well suited to the times we now live in.

Kidderminster. ARTHUR R. GOODWIN.

TEA-HOUSE OF THE UPPER GARDEN.

Pictures of a Michigan Garden

WILL it divert your readers to glance at two small pictures of a little garden some fourteen years old? The tea-house at the further end of the upper garden is seen in the first photograph, and for the amusement of those who like such things I set down here the stanza which is painted in Old English letters on a board hung above the seat. The lines are from a charming little English book, "The House, the Garden, and the Steeple," a fascinating collection of old mottoes (although I have my doubts as to the antiquity of this one):

"Give this house oh, Traveller, pray,
A blessing as you pass this way.
And if you've time, I beg your pardon,
While you're at it, bless the garden."

I enclose, too, a photograph of Salvia Sclarea, seed of which was given me some years since by Mrs. Philip Martineau.

Let me add to what Mr. Pearson has said lately my own impression concerning the growing charm of THE GARDEN. Discussion in its pages was surely never livelier nor more enlightening. I have been particularly interested in the question of colour description of flowers, and have often thought what an eye-opener a Blue Flower Show might be, everyone's idea of blue appearing in concrete form. How full of humour such a situation, but how full of useful opportunity for comparison, too, especially if the recognised charts were on hand—the French and Ridgway's!

Gardening, as Mr. W. P. Wright asserts in those capital opening chapters of his last book, "Food, Fruit and Flowers," will come to its own again in the fulness of time. Meanwhile, let me congratulate THE GARDEN on its undaunted spirit under present conditions, and offer my personal thanks to those of its contributors who so valiantly blow upon the gardening spark.

LOUISA Y. KING.

Orchard House, Alma, Michigan.

Notes from a Berkshire Garden

WITH the advent of the heavy morning frosts we may say the season is now over and we can take a really comprehensive view of the year. The year, of course, was an abnormal one, winter lasting until April 15, with uninterrupted frosts up to 25°. In the middle of April the weather broke suddenly and, barring a slight frost on May 5, continued mild to the end. I will sum up how this extraordinary season affected this garden. It would be interesting to know how it affected other parts of the country. I know you have already had several letters on this subject, but they were written far too early in the year. Had I written months ago, I should have given a long list of plants as dead which are now, as the doctors say, "sitting up and taking a little nourishment."

Rock Garden.—All the large plants of Rock Roses are dead; all the young plants survived. Gentians and Saxifrage rejoiced. Gentiana acaulis not only insisted on flowering profusely last November, but again in the spring; while Saxifraga Cockburniana, which has sulked for six years, condescended to flower quite well. Wahlenbergia serpyllifolia was a mass of blossom.

Herbaceous Plants.—Phloxes have never been better. They have made a marvellous display. Tritoma in small clumps died; the larger clumps looked quite dead, but in July began to shoot up

again, though they only produced one head of blossom. Hollyhocks were stunted and poor, and nearly all the deeper-coloured ones died. It is, however, rather remarkable that this flower did better in *exposed* borders. All the hardy white Chrysanthemums gave up the ghost; this I cannot understand. All Michaelmas Daisies extremely poor.

Bulbs.—Daffodils, fully out September 26. Pheasant-eyes, May 13, never made a show; the sun was too hot for them and they wilted before they could come out properly. Gladiolus bulbs left in the soil through the winter, by accident, came up and flowered well!

Fruit.—Strawberries poor, as the fruit did not set; Peaches and Nectarines in blossom April 27 were a poor and tasteless crop; want of sun, I suppose. Pears blossomed May 12. A heavy crop of Windsor was not worth eating; this was hard lines, seeing there were no wasps to rob us as in other years. Apples, the finest crop for years and 90 per cent. flawless. One can say the same of the Plums, only that they suffered from want of taste, except the Green Gages, which have never been better; in normal years I never get any. Quinces, which visit us in twos and threes usually, are present in their hundreds; they are a bitter disappointment to the little boys who creep through the hedge to sample them.

To sum up, taking the year as a whole, if only we had had sun enough the continued frost would have been a blessing in disguise. As I have said in a former letter, the frost kept us in sound Apples until the end of June. A mild season will not do this for us. EDWARD M. HADOW.

Uffington Vicarage, Faringdon, Berks.

SALVIA SCLAREA OR CLARY.

GUERNSEY LILY NOTES. II

BY THE REV. JOSEPH JACOB.

HAS the Almighty ever allowed mankind to create a race of flowers of more superb magnificence than the Nerines or Guernsey Lilies? Were I to allow myself to be carried away by my enthusiasm like De La Chesnee-Monstereul, the author of "Le Floriste François," I would see them planted in the beds and borders of Paradise, and even go so far as to suggest that the sight of them bathed in the rays of an Eastern sun and seen through the partly opened door of the celestial garden was naught else but the flaming sword of the guardian angel. No human eye could stand the sight. "Thus far: and no farther."

To leave imaginings, there are few more brilliant spectacles provided for us by flowers than a greenhouse full of choice Guernsey Lilies, say, from nine to ten o'clock in the morning and from four to five o'clock in the afternoon on a sunny day in early October. Not only do the blooms look as if each petal was studded with innumerable quantities of the tiniest diamonds, but they almost seem to be made of a natural tinsel which presents to the visitor a mass of solid brilliance. The silvery sheen of the paler pinks, the glowing redness of the deeper reds and crimsons, and the rich refulgence of the roses cannot be matched elsewhere in the kingdom of flowers.

And who are the individuals that compose this wonderful show? What are their names and what are their several characteristics?' It is exceedingly difficult to reply in a useful way, for the very simple reason that with the exception of a dozen or so species and varieties whose names are common property or current coin, all the rest have only, as it were, dialectic labels, known by a single firm or in a certain garden, and no more in general usage than our local "hog" and "heem." I am very much afraid that the nomenclature of this South African family is in somewhat of a tangle. To begin at the beginning, I am very uncertain if what John Rea in 1665 called "the Garnsey Lilly or Narcissus of Japan" is what in the *Botanical Magazine* (plate 294) is called Amaryllis sarniensis, which name Nicholson gives as a synonym of Nerine sarniensis. Rea calls his flower "peach coloured"; the *Botanical Magazine* plate shows a good rose; while in the "Dictionary of Gardening" Nerine sarniensis is described as "pale salmon." I have had sarniensis sent me from the island on two separate occasions. It is a clear bright rose self, neither peach colour nor pale salmon. Mr. Elwes once sent me N. rosea (or N. sarniensis rosea) with a note that it seldom blooms. I have flowered it for the first time this autumn, and if it is not what I have previously grown and bloomed as sarniensis, it is its "double." Another difficulty is to account for the ancient export of flowering bulbs from Guernsey if the variety cultivated for this purpose a hundred or a hundred and fifty years back was so exceedingly shy of blooming as all present-day growers in the island know sarniensis to be. After all, it would be grown as a business proposition. Could such a poor performer have ever been made to pay? Is our modern sarniensis a supplanter? I can well imagine how its fine colour and perfect form might eclipse in popular favour another variety not so richly endowed.

So much for the historical side of the Guernsey Lily. Now to come to what we see in our collections to-day. To begin with, there is the beautiful sarniensis, with its exquisite shape of flower and umbel and real rose colouring. I would not scrap my bulbs were they only to bloom once in a decade. Twelve would not take up much room, and with this number and with enlightened treatment at least one or two heads should appear every year. Then there is Fothergillii major, which is a sub-variety of curvifolia, a magnificent, tall-growing plant clothed in royal scarlet as befits a herald who by his presence announces the coming of his fellows. After Fothergillii comes the smaller bright yellow-red corusca. It is one of the most certain of bloomers, and of that particular colour which invariably compels the attention of those who see a collection for the first time. After these the fun begins. Having already made it plain that the varietal names of the Guernsey Lily tribe are something of a difficulty, I must, for the purposes of this article, confine my remarks to the plants of my own collection, which had its genesis in kindly gifts from Sir Frederick Moore, Mr. Elwes and Mr. Bennett-Poë, supplemented by a few purchases from Messrs. Barr and Sons and two or three other dealers. As all who are familiar with the family know full well, there are two main types of flowers: (1) the Azalea shaped and (2) the Martagon shaped. The words are well known by everyone, and they suggest with very considerable accuracy the character and style of bloom that must be expected when one reads that corusca is Martagon and Miss Woolward Azalea shaped. So much is this the case that when last in London Mr. Bennett-Poë told me that a lady had been lately admiring his "lovely Azaleas," when all the time they were the aforesaid Miss Woolward Guernsey Lilies. The idea of Martagon has been suggested by

A FORMAL GARDEN IN MICHIGAN.

my own visitors, who have frequently said that the petals turn back "exactly like a Martagon." These are the flowers that at present are my favourites. The most glorious of all is the scarlet Meadowbankii, a gift from Mr. Elwes. Tall in stature, large in umbel and brilliant in colour, it takes "a lot of beating." Miss Willmott is another bright spot of vermilion, for there is a good deal of yellow in the red. It is a fine plant when well grown. Glory of Sarnia is equally bright and attractive. I have a whole series of delightful narrow-petalled flowers which appear to be variants of corusca in their tone and shade of colour. The best, perhaps, is Mrs. Hooker. It is so tall and important-looking that those who do not as a rule like the narrow segments of September, Exhibition, Lady Guise, Ada Bryson and Lady Lawrence are disposed to make an exception in its favour. The last named is a little gem with especially narrow petals and a considerable amount of salmon in its composition. With appropriate greenery and arranged in silver or cut-glass vases it would make a pretty centrepiece for a fairy's dinner-table. Coming to the more carmine and flowers with wider petals, I have Queen of Portugal (I believe, Barr's Queen Nathalie), Guernsey and Garibaldi. These have departed very far from the corusca red, and are quite a rosy carmine. In pinks there is a varied assortment; Miss Shelley, Lady Mary Shelley, Miss A. Mackie (deep rose centre), Lady Carrington, Mary Anderson, Hon. Mrs. Kingscote and Dainty Maid are a selection of the most attractive. But I am only piling up meaningless names in my desire to cut my cloth according to the columns of THE GARDEN; so with the permission of the Editor, which I herewith ask, I will close with these words—witch-like in the diverse possibilities of the spirit that they may call up in those who get so far as to read them—"to be continued."

THE BRILLIANT HIPS OF R. SETIPODA.

THE WILD ROSES.—II

SOME OF THE BEST FRUITED SPECIES.

BY R. A. ROLFE, A.L.S.

OF scarlet-fruited kinds their name is legion, and the hips differ largely in shape and size and in the way they are arranged on the bushes. One of the most effective is the Chinese R. sertata, the branches of which are literally wreathed with elongated fruits, and thus, whether in fruit or flower, the species answers well to its name. In fact, it is a plant of high decorative value. Others of the R. macrophylla group have been very effective. The Himalayan R. macrophylla is represented by a large bush, while the allied R. setipoda and R. Swerginowii, both of Chinese origin, are tall bushes bearing a profusion of brilliant fruits. R. Moyesii is now so well known that a mere mention of the name will suffice—and there have been brilliant exhibitions of its fruits at recent meetings of the Royal Horticultural Society at the Drill Hall—but there is another Chinese species, namely, R. Davidii,

THE GREEN SPINY HIPS OF R. MICROPHYLLA.

that should be better known, as its brilliant hips are borne in fascicles, and have recently made a good display at Kew. The large, rounded hips of R. rugosa are of well-known decorative value, and the British R. tomentosa and R. mollis are both fruiting very freely. R. alpina, the Thornless Rose, has unusually elongated fruits, and these have also made a good show, with R. pyrenaica, a dwarfer ally, in which the prickles are well developed. R. pisocarpa is one of the North American species that have fruited well, its hips being rather larger than its name would denote, and several other American kinds could be enumerated.

In the Roses of the Synstyla group the fruits are generally borne in umbels, those of R. multiflora being too small to be of any decorative value; but in R. Helenæ they are of about twice the size and orange buff in colour, as shown by a bush at Kew. In R. Soulieana, not very dissimilar in general character, the hips remain green for a considerable time,

HIPS OF R. MOYESII, ONE OF THE FINEST OF THE SCARLET FRUITED SPECIES.

but ultimately become yellowish; while in R. lucens the change of colour, at all events here, is hardly seen before the winter.

It is a prevailing characteristic of the Roses to have coloured hips, but in one species, which is well represented at Kew, the character is not seen, for the large, rounded and very spiny hips of R. microphylla mature and fall off the bush without any material change of colour, and they remain yellowish green after they have fallen from the bushes. This Rose is further exceptional in habit, as will be seen when we come to speak of the species more in detail.

It is not in the fruits alone that the wild Roses appear to advantage—though in this respect they may claim to have remained untouched by the hand of man—for many are of considerable decorative value when in bloom, and the majority can be used very effectively in suitable places in the shrubbery or on the rockwork, the latter, of course, for the dwarfer species; while a few others that are not quite hardy in Britain succeed best on some sheltered wall. They possess varying degrees of beauty, but when seen under native conditions they are, without exception, attractive.

THE NEWER ROSES

BY E. MOLYNEUX, V.M.H.

AT the request of the Editor, who is always anxious to help the inexperienced, I am writing a series of articles on these popular flowers with a view to aiding those persons with little or no experience of varieties or methods of cultivation. In matters of culture I can assure the beginner that my remarks will be of a plain, practical nature, such as will help any ordinary person to grow the flower and thus incite a greater interest in it. One of the most interesting phases in Rose culture is that of watching the development of new or lesser-known varieties. As all people have not the opportunity of seeing the newer sorts, a note on those desirable may be useful to those who intend to form new collections or add to those they already have in the coming season.

The Hybrid Tea section is the most popular owing to the excellent points this section possesses, especially in the continuance of flower during the summer and autumn months. I do not know who is responsible for the nomenclature of certain sorts in this section, but it is a moot point if all are correctly classified. Some varieties are really

single-flowered. Scientifically, it may be correct to class them as Hybrid Teas, but I think it would be more helpful to the inexperienced if such were noted as they are—single-flowered. The following varieties are desirable :

Golden Emblem (McGredy, 1917).—This bids fair to be the finest yellow Rose in cultivation. The habit of growth is ideal, the flowers shapely and sweetly scented. Gold medal.

Mrs. C. E. Shea (McGredy, 1917) is one of the best of garden or decorative varieties. In colour it is madder red, shot with scarlet.

Colonel Oswald Fitzgerald (A. Dickson and Sons, 1917) in colour is blood red velvety crimson ; in growth vigorous and branching.

Molly Bligh (A. Dickson and Sons, 1917).—The colour is deep madder pink with an orange zone at the base of the petals.

Florence Spaull (B. Cant and Sons, 1916) cannot fail to become a favourite, as, apart from its shape and deep rose pink colour, it is sweetly scented.

Clarice Goodacre (A. Dickson and Sons, 1916) gives perfectly formed flowers, ivory white, tinted with biscuit chrome.

Gorgeous (H. Dickson, 1915) truly deserves its name. Quite small buds develop into gorgeous blooms even after being cut. In colour orange yellow, veined with reddish copper. Gold medal.

Admiral Ward (Pernet-Ducher, 1915), although not quite new, is such a handsome Rose that it should be in every collection. The perfume is so enchanting and the colour so attractive—crimson, shaded velvety purple.

Ada Paullin (E. J. Hicks, 1916) has superseded that good old variety Anna Olivier, in that its colouring—apricot, bronze shading—is more intense.

C. E. Shea (E. J. Hicks, 1917) is one of the most attractive half-opened blooms we have. The colour is a rich pink ; the growth is all that could be desired, vigorous and producing flowers perpetually. This Rose cannot fail to become immensely popular in the garden. Gold medal.

Donald Macdonald (A. Dickson and Sons, 1916) as a bedding Rose should be popular, the orange carmine, medium-sized blooms being so freely produced.

Golden Spray (H. Dickson, 1917) is really a bedding Rose of a deep Maréchal Niel yellow. The intensely coloured buds develop large single blooms on arching shoots in really elegant sprays. Gold medal.

Hon. Mrs. R. C. Grosvenor (B. Cant and Sons, 1916) is quite a good autumn-flowering variety. The blooms are not large, but shapely ; in colour porcelain flesh with a deep orange yellow centre.

Joanna Bridge (E. J. Hicks, 1916).—For cutting on long stems this is a charming variety. In bud the colour is straw yellow with strawberry shading, which pales with age, the blooms terminating semi-double. The foliage is bronze tinted.

Lady Plymouth (A. Dickson and Sons, 1914) may not be quite new, but it is a Rose I admire very much in a cut state. It opens ivory cream, changing to a pale yellow hue. A shapely bloom. Good in growth and free in flower.

Mrs. Bryce Allan (A. Dickson and Sons, 1916) is a coppery carmine rose. Gold medal.

Mrs. Dunlop Best (E. J. Hicks, 1916) in colour is reddish apricot, the base of the petals coppery yellow. In the bud and half-open state it is a charming variety for cutting ; of extra strong growth and perpetual flowering.

Miss Stewart Clark (A. Dickson and Sons, 1916).—Pure golden yellow with crimson splashes on the outer petals before unfolding ; stiff, leathery, deep green foliage.

Mrs. Mackellar, citron or canary yellow colour ; large deep blooms on stiff, erect stems.

Red Letter Day (A. Dickson, 1914) is so useful for cutting that I cannot omit this Rose from any list of utility varieties. Although not a novelty in the strict sense, as a continuous and late-flowering variety I do not know its equal. In colour scarlet crimson.

THE PROMISING NEW ROSE C. E. SHEA.

Autumn Tints (B. Cant and Sons, 1914).—For its quaint colouring this Rose is much appreciated ; coppery red, shaded with orange and salmon.

Augustus Hartman (B. Cant and Sons, 1914).—Apart from its colouring—brilliant geranium red, flushed with orange—I know of no Rose that develops such massive blooms when cut in the bud state and placed in water. In growth it is all that could be desired, with ample foliage.

William Cooper (H. Dickson).—I look upon this Rose as quite the most attractive of any variety in perfume. The blooms are made up of huge petals of a deep rich lake red.

TEA-SCENTED VARIETIES.

Mrs. Campbell Hall (A. Dickson and Sons, 1914) is a delicate creamy buff, faintly tinted with rose.

Titania (W. Paul and Son, 1915).—Coppery crimson, changing with age to deep salmon red, an attractive colour ; free flowering, but weak in growth.

PERNETIANA VARIETIES.

Muriel Dickson (H. Dickson, 1915) is one of the most strikingly coloured Roses in cultivation—deep reddish copper in the bud state, opening to cherry red with copper shading ; of dwarf growth and free flowering.

G. F. Barry.—Pale yellow or deep sulphur colour, a continuous flowering variety with ample foliage.

Mme. Edouard Herriot (Pernet-Ducher, 1913) is popularly known as the "Daily Mail Rose." For growing in the open for producing cut blooms I regard this as the most popular of all Roses. Coral red, shaded with yellow and bright rosy scarlet. In the half-open condition the colouring of this Rose is superb.

SINGLE VARIETIES.

Isobel (McGredy and Sons, 1916) in colour is carmine red, flushed orange, with a faint Austrian Copper shading. The blooms are made up of large petals with full yellow anthers, delightfully perfumed. This is one of the best of decorative Roses in a cut state.

Ulster Gem (H. Dickson, 1916) has perfectly single flowers of a deep primrose colour, freely produced on stiff stems.

Princess Mary (E. J. Hicks, 1915).—Deep crimson scarlet with bright yellow anthers. Gold medal.

Waltham Scarlet (W. Paul and Son, 1914).—This crimson scarlet variety is produced in huge trusses.

CLIMBING VARIETIES.

Climbing Lady Hillingdon (E. J. Hicks, 1917) bids fair to be a desirable Rose, as it grows freely. The copper-tinted foliage is attractive, forming a good contrast to the orange-coloured blooms.

Colcestria (B. Cant and Sons, 1916).—Satin rose in the centre, shading off to silvery pink in the outer petals. This variety gained the Clay Cup for fragrance at the Holland House Show, which is a proof of its merits. Should prove a good wall Rose.

Cupid (B. Cant and Sons, 1915) in growth is vigorous, with huge dark green leaves. In colour the blooms, when in the bud state, are flesh, fading slightly to peach.

Lemon Pillar (G. Paul and Son, 1915).—Pale lemon buds passing to lemon white ; large bold flowers, freely produced. Gold medal.

Mrs. Rosalie Wrinch (W. and J. Brown, 1915) has large single and, at times, semi-double blooms of a rich shade of pink. One of the earliest varieties to flower, therefore valuable.

Danae (Rev. J. H. Pemberton, 1913) gives huge quantities of yellow semi-double flowers.

Pemberton's White Rambler (Rev. J. H. Pemberton, 1914).—A pure white rambler not liable to mildew, lasting a long time in flower.

Paul's Scarlet Climber (W. Paul and Son, 1916) is probably the most vivid colour in Roses we have ; the huge trusses of scarlet crimson flowers are freely produced on stiff, erect stems well clothed with foliage. A second crop in September can be obtained by judicious pruning after the first flowering is past.

ON BURNHAM SANDS

By H. STUART THOMPSON, F.L.S.

IT is always pleasant to revisit a district one remembers as a child, and especially if the place was a hunting-ground for the budding naturalist. My earliest reminiscences of Burnham-on-the-Sea, as it is now called, are not only of sea bathing and sand castles, but of butterflies and caterpillars, of flowers and shells. In the early eighties Fritillaries and other butterflies were far commoner than now upon the sandhills.

As a boy of twelve I had the good fortune to discover on the Burnham sands a specimen (now in the Kew Herbarium) of the rare Polygonum maritimum, hitherto only found in these islands at Braunton Burrows in Devon, and in Hants and Dorset. But though correctly named, it was not until I became a student at Bristol that I realised the importance of that find, on making the acquaintance of Mr. J. W. White, F.L.S., who had already published his initial work on the flora of the Bristol coalfields. P. maritimum has never since been recorded from Somerset, and is now almost extinct in Britain. But in 1906 its near ally, P. Raii, was found by the Rev. E. S. Marshall in hollows amid the sandhills, and it has since been seen sparingly in other spots about Burnham; while on August 20 this year a few straggling plants were growing with some Chenopodiums within a hundred yards of the esplanade, and they ran the risk of being dug up by some child's wooden spade.

In 1896 Mrs. E. S. Gregory discovered on the sands near Burnham a clump of Scirpus Holoschœnus, a plant common enough on the Continent, especially on the Mediterranean, but only known in Britain at Braunton Burrows. Ray admitted in his Synopsis that he was in error in writing Somerset for Devon in 1688 ("Hist.," Vol. II., page 1303); but in 1791 W. Sole recorded the plant from "near the seaside below Watchet" (Collinson's "History of Somerset"). It seems to have soon disappeared from Watchet, and Mrs. Gregory thus restored to the county an important species long supposed to have been lost.

It would be interesting to know how these three rare plants came to the Somerset coast in such small quantity, and whether seeds could have been washed across Bridgwater Bay from North Devon. It is not likely that they could have escaped the notice of careful field botanists like Thomas Clark and his friend John Collins, who visited Burnham so often in the first half of the nineteenth century; nor perhaps of other well-known workers who paid less frequent visits since that time.

The writer came into the possession of Thomas Clark's herbarium some twenty-five years ago, and it contains most of the flowering plants known to grow in Somerset in the early part of last century, including many from Burnham, Berrow, Brean Down, the Steep Holm and Steart Island, as well as from the Quantock side of the tidal river Parrett. It is gratifying to know that notwithstanding the advent of golf, the extension of building operations and the increasing popularity of this healthy resort, practically all the plants, except Crambe maritima, found by Clark and Collins can still be seen growing in the district, and several others have since been found. This may be partly due to the fact that maritime plants are usually deep-rooted. Even so uncertain and sporadic a subject as Henbane maintained itself near Berrow Church and near Brean for over thirty years.

In 1859 Thomas Clark gathered on the sandhills specimens of the beautiful Patagonian Evening Primrose (Œnothera odorata), which has since held its ground with varying success, and is now well established in several spots. The flowers of this species turn a deep orange-red when fading or when dried in the press. The common Œnothera with larger and paler blossoms, which was introduced from America, has been recorded at Burnham since 1837. It comes under Œ biennis as an aggregate.

Among other handsome or interesting alien plants long established about Burnham are Soapwort (Saponaria officinalis), often with double flowers; Reseda alba; Asparagus officinalis, scarcer now than formerly, but known since 1836; Melilotus alba, and Medicago sativa in great variety. The colour-forms of Lucerne and allied species were recently dealt with in THE GARDEN by the present writer. This year a fine yellow Linaria has got established in a sandy enclosure facing the sea. Except for the leaves, which are broader at the base than usual, it resembles L. italica. Flixweed (Sisymbrium Sophia) is a denizen or colonist known in waste sandy ground at Burnham for just a century, for T. Clark's first specimens bear the date 1818. The Sea Buckthorn (Hippophaë rhamnoides) was planted on the sandhills about 1890. This prickly shrub, with narrow, silvery leaves and orange-yellow, stemless berries, is useful in binding the sands together, just as it does as a native in some of the sandy river-beds in Switzerland at considerable elevation. It is indigenous on the east and south-east coasts of England.

Let me now mention a few of the more remarkable or beautiful native species. The elegant pink blossoms of the Convolvulus Soldanella, whose thick, leathery leaves so closely resemble those of the Alpine Soldanella, can still be seen both north and south of the town. Patches of Iris fœtidissima, with its handsome orange or vermilion seeds, are here and there. Epipactis palustris, one of the prettiest of our native Orchids, is abundant on the borders of an overgrown swamp in the midst of the golf links. This marshy ground also produces Orchis latifolia, O. maculata, Scutellaria galericulata, Carex acutiformis, C. acuta and C. riparia, together with the variety humilis. The last-named Sedge is probably merely a short and slender sand-grown form of riparia, which is so common in the Somerset lowlands. Some of the flowering spikes of the variety are only 8 inches or 10 inches high when growing in the sand. Mr. Marshall first saw it north of Berrow. Juncus maritimus is very rare and local near Berrow, where it was discovered by Mr. J. W. White in 1897.

Most of the ordinary sand-dune plants are here, such as the Yellow Horned Poppy, Ononis horrida, Cakile maritima, Lycopsis arvensis and Euphorbia Paralias. There is also much Cynoglossum officinale. Carex arenaria and the great spiny grass Ammophila arundinacea bind the sand together; while Phleum arenarium and Festuca uniglumis are two less common grasses very frequently seen. Galium verum variety maritimum is abundant. It flowers several weeks later than the ordinary form, is much branched, and the leaflets are very narrow and small. Sometimes, as this year, it is the host plant for the parasitical Dodder. Viola ericetorum is the dominant species of the sandhills; and Arenaria serpyllifolia var. viscidula is quite frequent and usually very glandular. On the splendid stretch of sand within reach of the highest tides are most of the plants one would expect, including Suæda, Salicornia, Atriplex and Chenopodium in variety, Salsola Kali, Beta maritima, Cakile and Honkenya peploides.

Near the Berrow road, which separates the sands from the inland marshes, are Lepidium latifolium, Carduus tenuiflorus and Chærophyllum Anthriscus, among others. The marshes themselves, including those towards Highbridge, produce Frog-bit (Hydrocharis), Wild Celery, Butomus and Œnanthe Lachenalii. And in the mudflats at the mouth of the River Brue are most of the usual salt-loving plants of Southern England, such as Aster Tripolium, Statice Limonium, Artemisia maritima, Bupleurum tenuissimum, Glaux maritima and many others.

Gardening of the Week

FOR NORTHERN GARDENS.

The Hardy Fruit Garden.

Planting Fruit Trees.—It is advisable to have new trees planted as soon as they can be safely lifted. When brought from a distance or exposed in any way the tips of the smaller roots perish, and besides removing the broken portion of the thicker ones, these should be carefully trimmed to living parts. So often has the method of planting been related that it may suffice here to note that shallow planting is essential, staking important, and mulching, in Scotland at least, may be dispensed with. In the case of wall trees the stems should be kept several inches out from the wall, and if fastened to it, the tie should be rather loose. I prefer maiden trees to older ones, but of Currants and Gooseberries those four years of age.

Raspberries.—The rods of these may now be securely fastened to wires or, where bunched, tied to their stakes, first seeing that none of the latter are too decayed to stand another year. The rods, as advised previously, will have been thinned out, but some that could be better done without may have been left, and these should now be also removed.

Blackberries.—Even the common Blackberry is enormously improved under cultivation, but nothing like so fine as the so-called Parsley-leaved, which also is later in ripening. In the North it is well worth a place on an east wall. Now that the crop is past—though old saws have it that October 10 is the latest date the fruit can be used—all the old stems should be cut out close to the ground and the strongest nailed about a foot apart, cutting off the ends not wanted to fill up space. Weak shoots should be cut to the ground.

Loganberries and Wineberries.—These, too, should be done up for the season, the first named in the same manner as Blackberries, but trained to rails, preferably to poles. The Wineberry does well as a bush and needs no supports. It is one of the handsomest of the coloured stemmed shrubs of winter, a mass on a sunny day being unique in its bright brown colouring.

Raspberry-Strawberry.—This is still recommended, but I have long since discarded it as worthless.

The Rose Garden.

Transplanting.—It frequently happens that by transplanting Roses which are not doing so well as one would wish, cutting back the roots before replanting and giving fresh soil, a very great improvement results. This is the best time for these operations.

Pruning.—Quite a number of common and old Roses may be pruned now and so save time in spring; also ramblers and climbers, which take up much time in cutting out old wood. They may be tied now or merely fastened temporarily, to be finished in spring. Gloire de Dijon trained to a wall may also be pruned and nailed, when a much earlier crop of flowers will be secured. It is one of the hardiest of Roses. I treat W. A. Richardson similarly, and get bloom in May.

Roses with Hips.—Very fine is Rosa alpina in autumn and, of course, R. rugosa is well known. Less so are the Scotch Roses with their black hips. In the more wild parts a group of common R. canina is very effective in winter, and for its stems R. lucida is well worth a place.

Mulching.—This is so general that one can only say it is by no means essential. If to preserve from or lessen the effects of frost, Bracken is in all respects preferable; and if to enrich the soil, it is quite early enough to add proper manures in spring.

The Kitchen Garden.

Jerusalem Artichokes.—The stems may now be cut over close to the ground and stacked in

bundles to dry, after which they may be burnt to make ashes for the garden, or be used for fuel. Enough tubers should be lifted at a time to supply requirements for a week or a fortnight.

Globe Artichokes.—Any of these worth cutting should be gathered and the stems stuck in sand till wanted, cutting all the old stems hard back. In many years the plants do not prove to be hardy, and some means of protection are needed. Littery strawy manure is good, or leaves heaped up around the plants. Should a fresh plantation be in prospect, now is the proper time to detach suckers from the old plants. These, if laid in in cinders in a protected position and covered during frosts, will form a nice lot of fibrous roots by early spring for setting out in March.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Mushrooms.—As fast as the manure is available, make up the beds as described in former issues. Those who have not a house set apart for the purpose may grow good Mushrooms under the greenhouse staging, provided they keep this part dark and make up the bed not less than 15 inches deep. If possible, it should not be less than 2 feet wide. A yard would be better, as the greater the bulk the less liability there is for the manure to become unduly dry, especially if the bed is made up above the floor line with, say, retaining walls of boards or loose bricks. Not that Mushrooms require much water, but a moist position favours their growth without the necessity of continuous watering to keep the whole sufficiently moist.

Brussels Sprouts.—Owing to the want of sun and such a plague of caterpillars, this crop is not so successful as it is in some seasons. The sprouts are irregular in size; not close, firm buttons such as are so highly appreciated. Any dead leaves should be stripped off the plants, as when decaying they adhere to the sprouts, discolouring them. Any late batches of plants can be assisted by sprinkling superphosphate on the surface at the rate of 4oz. to the square yard, or giving a good dressing of soot, which has an influence upon the growth of both plants and sprouts.

Spinach.—Where the latest-sown plants are too thick in the rows, pull out the weaker ones, leaving at least 4 inches of space between the plants. Continuously stir the surface soil to aid growth, and give an occasional sprinkling of soot or wood-ashes, which will tend to check slug attacks as well as aid growth. The plants sown early in August are now giving free supplies of large, succulent leaves, which should be gathered carefully as required, giving space for later growth and thus rendering the plants hardier and better able to stand the winter.

Parsley.—Thin late-sown plants to 6 inches to ensure stockiness of growth, using the thinnings to fill up gaps or to make new plantations in the open or in frames.

Fruit Under Glass.

Late Grapes will require constant watching to see that no decayed berries are allowed to remain in the bunches, as one will quickly contaminate the remainder surrounding it. Continually warm the hot-water pipes to ensure a free circulation of air to dissipate condensed moisture, which is sure to take place, especially when plants have to be watered in the same house. Shorten the laterals to aid the circulation of air, and admit sun whenever possible. The roots must be attended to as regards water; they must not lack for want of it, or the next season's crop will be interfered with.

Newly Planted Peach Trees must be well soaked at the roots if there is any suspicion that the soil is approaching dryness. Syringe the trees to aid the formation of new roots, which will do much towards giving them a better start in the spring, and thus render the prospect of a crop doubly sure. These early lifted trees always make more progress than those not taken up before the turn of the year.

The Flower Garden.

Planting the Beds.—No time should be lost in completing the beds for a spring display of Daisies, Aubrietia and such-like spring-flowering subjects. Also all bulbs should be planted without delay. In the case of Tulips growing among Daisies, Aubrietia or the like, if an early and a late variety of a similar colour are planted alternately, a longer season of bloom is assured. For instance, take the early variety Bouton d'Or and the later Gesneriana lutea, or Dusart and Gesneriana rosea.

Cutting Hedges.—Lose no time in completing the cutting of all evergreen hedges. The longer they are left, the greater likelihood there is of injury by frost later on, as the cut parts do not have time to become inured.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

Potatoes Grown from Single Eyes

THE shortage of seed Potatoes in the spring of 1917 created a good deal of discussion in the Press as to the advisability of cutting tubers for planting into small sections instead of planting them whole. In order to test certain assertions as to the heavy yield from small scraps of tubers containing single eyes, the following experiment was conducted under conditions available to every allotment holder.

In January 1lb. of tubers of Kerr's Pink and 3½lb. of tubers of Lochar were obtained from Scotland. The Kerr's Pink were very small and were fifteen in number. The Lochar were much larger; the exact number was not kept. All were at once placed in boxes and put in a light room from which frost was just excluded. Little progress in sprouting was made before the beginning of March, so the boxes were placed in a warmer room for a fortnight. The sprouts were by that time a quarter of an inch long. The tubers were then cut into sections with one eye each, except in the case of the five largest tubers of Lochar, which were left whole. In this way fifty-one single-eye sections were procured from Kerr's Pink and eighty single-eye sections of Lochar.

The eyes were then placed in boxes of leaf-mould and sand and lightly covered. They were stood in a light room in which there was a fire for several hours each day, but the boxes had eventually to be placed in a cold shed to check too rapid growth, the weather being too inclement for planting.

The ground used was part of an old market garden that had been more or less derelict for several years. It was very heavy and dirty, and it had to be dug when very wet. In that condition it was too sticky to break up well, and when dry it became very hard and lumpy. Planting could not be undertaken until April 20, and on account of the poor planting condition of the soil a little fine soil from an old rubbish heap was placed in the trenches with the sets. The rows were planted 28 inches apart and the plants were placed 14 inches apart in the rows, and covered with about 3 inches of soil. The first shoots appeared above ground on May 1, and from that time the plants grew vigorously. Before earthing up, a little guano was sown between the rows, but no other manure was given.

About the middle of July, and again during the second week in August, they were sprayed with Burgundy mixture, but the tops did not show signs of disease. In both cases the haulms were very vigorous.

Lochar was lifted on September 15, and yielded 197lb. of tubers. The largest tuber weighed 13½oz., and there were many between 8oz. and 10oz. There were 27lb. below seed size and twelve small tubers were diseased. Many tubers were attacked by scab. Of the five large uncut tubers one was cut into two equal pieces at planting-time, the others being planted whole. There was no difference at lifting-time between the whole and the half tubers, but they bore heavier crops than the single eyes. The six sets yielded 24lb. 10oz. of tubers, but there was a large percentage of very small Potatoes, each root numbering over 100 tubers.

Kerr's Pink was lifted on September 22 and each root was weighed separately. The total yield was 157lb., the heaviest root yielding 7lb. 13oz. Two other roots yielded 5lb. and 5lb. 10oz. respectively, while ten other roots produced 4lb. or more each. Sixteen roots bore between 3lb. and 4lb. each, and but two roots yielded below 1lb. each. Those two roots were always rather weak, and the tops were eventually killed by their stronger neighbours. They produced but 6oz. and 7oz. respectively. The heaviest tuber weighed 15½oz. and there were many tubers between 9oz. and 13oz. Seven pounds were below seed size. Seventeen tubers were infected with ordinary Potato disease, and many were marked with common scab in the same way as all the varieties of Potatoes grown on the same ground.

More room ought to have been allowed both between the rows and the sets, for the tops became very crowded by the end of July.

W. D., in the *Kew Bulletin.*

OUTDOOR TOMATOES

THE note on the above by "S. E. D. T.," asking for readers' experiences of this subject, prompts me to send these notes on the conduct of my own plants. This is the first year that I have grown Tomatoes. It was the excellent articles on the subject which appeared in THE GARDEN in the early part of the year which induced me to grow them.

I had no heat, but like to overcome difficulties. I therefore purchased a threepenny packet of Carter's Outdoor Tomato seed and sowed about a third of the same in a pan, which was placed upon the kitchen shelf above the fire, with a sheet of glass to prevent evaporation, placed upon the pan. This primitive method of obtaining bottom-heat proved quite successful in bringing up the seedlings (and I have adopted it for many other half-hardy subjects with success). In all, about 100 seedlings appeared. The pan was then placed in a cold frame in the middle of March (a fortnight after sowing) until the first rough leaf began to appear. I boxed twenty of the seedlings and grew them on for my own use, giving the remainder to friends, who also boxed them and in due time did well with them.

The plants were brought on in the cold frame until they were a foot high and beautifully sturdy—quite different to the weedy stuff usually sold as Tomato plants, and which could never bring much of a crop. The second week in May these plants were planted out against a south fence 4 feet high, the border being treated to wood-ashes as suggested in the articles mentioned. The weather being warm during May, the plants soon took hold and grew away splendidly. One of the plants refused to blossom, and two others suffered so badly from leaf-curl that they were destroyed. This left me with seventeen plants, from which I expected, perhaps, with luck, to get a pound of fruit per plant, basing my yield on plants I have seen purchased from dealers.

Those plants interested me more than anything else in the garden. Had I not raised them under practically impossible circumstances? Certainly! Very well, then, they had every possible inducement to repay me as the author of their being. When the first blossom had set I commenced to feed the plants. How they grew after that! The plants became like young trees, sturdy of stem and full of blossom. What did I feed them

on? Whisper it. (Very small type for this, Mr. Printer, please!) Bedroom slops, diluted with an equal quantity of water, administered once a week.

August came, and with its advent the first coloured fruits, which were *two to the pound* and seventeen to the cluster! Great Scot! I had so many Tomatoes from those plants that it was impossible to keep them down by using in the house. Most of them now repose in a bottled condition in the store cupboard. I could go out and cut 6lb. every other day until the latter part of September, when they did not ripen so fast. As I had to leave the garden for a fortnight's holiday, I picked all the tinted ones (14lb.) and placed them in a sunny window before departing. All were deep red on my return, and another 14lb. had ripened on the plants. Altogether, those seventeen plants gave 92lb. of ripe Tomatoes, and about 14lb. of diseased ones which were useless.

What a lot of disease there has been this year! The fruits look as though they had been bruised. Round here very few escaped, from what I hear. Of green ones there were none. The plants were stopped as soon as the fourth cluster had appeared. The fruits were corrugated? What of it! They eat and bottled beautifully.

Great Missenden. CLARENCE PONTING.

ANSWERS TO CORRESPONDENTS

RULES FOR CORRESPONDENTS.

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FRUIT GARDEN.

APPLE ORLEANS REINETTE (*E. M.*).—This excellent variety was previously called Winter Ribston, and it appears under this name in some catalogues of fruit trees.

INJURY TO MELON (*H. S.*).—The Melon is attacked by the trouble known as canker. As soon as any trace of it is evident, sprinkle the surface of the Melon with quicklime and dust the surface of the soil about the stem with it as well. Take care to use fresh soil in which to grow the next crop of Melons.

BOTTLING PEARS (*W. F. M. C.*).—As you appear to have got vacuum jars, we advise you to sterilise by heat. The quality of water varies in different districts, and unless your district water has been proved to preserve without sterilisation, you should only do one bottle as a test, and do the others in the ordinary way.

SCAB ON PEARS (*Mrs. W. P.*).—The Pears sent for examination were badly attacked by ordinary Pear scab (Venturia pirina). It is caused by a fungus, and is very common in many gardens. It first appears on the leaves and young shoots, and spores are then washed from the leaves and shoots to the fruits. The eradication of this disease is difficult, but some good can be done by cutting away and burning infected shoots when the disease is isolated and when it is general by spraying the trees, when the buds begin to swell in spring, with Bordeaux mixture, prepared by mixing 12lb. of copper sulphate and 8lb. of quicklime in 100 gallons of water. Later on, when the leaves are developing, the trees may be again sprayed with the mixture at half the above strength. Leaflet 131 issued by the Board of Agriculture and Fisheries deals with this disease. It can be obtained free of charge by application to the Secretary, Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W.1.

KITCHEN GARDEN.

POTATO TO NAME (*F. M. A.*).—It is very difficult to name Potatoes from their tubers if not quite impossible, but we think yours is likely to be May Queen. It is certainly not Midlothian Early, as the flower is wrong for that variety.

ROSE GARDEN.

MANURING ROSES (*P. T.*).—We advise a dressing of basic slag, 6oz. to 8oz. per square yard, at once, and have it lightly forked in. Then give a good handful of bone-meal to each plant in the spring after pruning. The soot can be given as a dressing later on in spring. As you describe your soil, we certainly think you would do well to lift all your Roses this autumn and trench your ground, removing some of the gravel so that you have a depth of at least 30 inches of soil. Into the lower foot of soil work in some good rotted manure, cow-manure for preference. Apply the basic slag to the surface after the replanting. This may seem a big task, but it will pay you. We prefer to give Roses a change of food—basic slag about every fourth year, and bone-meal about every second year. In the interim good rotted farmyard manure should be liberally applied in November and dug under the soil at the time of applying it.

FLOWER GARDEN.

PRIMULA JAPONICA FAILING (*D. W., Surrey*).—The failing appears to be entirely due to local conditions and only determinable on the spot. In the absence of information, seeing that the roots have been practically eaten away from the plants, we should attribute the mischief to the grub known as "leather-jacket," which feeds on a great variety of plants and roots; or to some other of the soil pests. Thorough and frequent moving of the soil, exposing it to the attacks of birds, and an application of lime or one of the soil fumigants would be most likely to help you to get rid of the trouble. Where farmyard manure is difficult to obtain, Wakeley's Hop Manure will be found excellent for most garden crops, the Potato included.

SPHÆRALCEA PEDATA (*T. W. L.*).—Sphæralcea pedata is a perennial, and native of the Southern and Western United States. It is not hardy in this country, but strikes readily from cuttings in the autumn. It is the plant which is often grown in gardens and sold as S. Munroana. Of trailing, prostrate habit with hairy stems 18 inches to 2 feet long, furnished with much-divided and lobed leaves, it is a somewhat rampant grower during the summer and autumn. The rose-coloured flowers are produced in the axils of the leaves along the greater part of the stems during the same period till cut down by frost. The true S. Munroana is of erect, bushy habit with almost woody stems 1 foot to 2 feet high, less divided leaves and lighter, more brick red flowers. It is hardy in sheltered positions, but gets killed right down to the ground every winter, coming up again in the spring.

BELLADONNA LILIES NOT FLOWERING (*A. K.*).—These, like Crinums and some other bulbous plants, are impatient of disturbance, and require time to re-establish themselves. Two years before flowering is not unduly long, even with top-size bulbs, and if you had not these, some time longer must elapse before they settle down into a regular annual flowering. As the foliage is healthy and you have proof that the bulbs are sound and increasing, [you must] possess your soul in patience until a flowering appears. Some years ago, with bulbs of the variety blanda, which were also of giant size, we only got a flowering every second or third year, even with long-established bulbs. It was of such colour, richness and long duration, however, that the memory always remained till the next flowering appeared. The only thing you can do to hurry them up is to see that they do not suffer from the want of moisture during the leafing period, throughout which, at weekly intervals or thereabouts, they may also receive applications of weak liquid manure.

THE GREENHOUSE.

A SELECTION OF GERANIUMS.—I have benefited greatly from my constant reading of THE GARDEN, and have been much instructed by the "Twelve Best Roses for Climbing," "Twelve Best Carnations," &c. I should be greatly pleased if some of your staff would give me a list of the twelve best Geraniums for growing under glass and say where such plants could be secured.—CANADIAN AMATEUR. [The following is a good selection of Geraniums, or, more properly, Zonal Pelargoniums, for growing under glass. With single flowers.—Aldenham, rich crimson; Cevic, pale salmon; Hall Caine, bright cherry red; H. Bartlett, orange scarlet; Lady Curzon, blush pink; Lady Warwick, white, margined reddish pink; Maxime Kovalevsky, orange salmon; Mrs. Brown Potter, rich pink; Mrs. H. Cannell, deep salmon; Naples, deep scarlet; Paul Crampel, intense scarlet; St. Louis, vivid scarlet crimson; Sir Thomas Hanbury, crimson, bluish tinge on top petals; The Mikado, soft cerise; and The Sirdar, bright scarlet. With double or semi-double flowers.—Bertha de Presily, satiny rose; Colossus, reddish crimson; Double Jacoby, deep crimson; Fleuve Blanc, white; Fraicheur, white, edged red; F. V. Raspail, rich scarlet; Golden Glory, orange scarlet; Gustave Emich, clear scarlet; Hermine, pure white; King of Denmark, salmon; Lord Derby, rich pink; Miss G. Ashworth, white; Mrs. Lawrence, satiny salmon; The Speaker, brilliant salmon; and Turtle's Surprise, scarlet. We have in each case slightly exceeded the dozen in case one or other may not be available. A large collection is grown by Messrs. H. Cannell and Sons, The Nurseries, Eynsford, Kent, England, from whom the above varieties can be obtained.—ED.]

TREES AND SHRUBS.

SHRUBS FOR LILY-BEDS (*B. E. F.*).—The following shrubs might be intermixed with your Lilies with advantage: No. 1 arrangement.—Ceanothus Gloire de Versailles and any other varieties of Ceanothus of that type; Rhododendron flavum (Azalea pontica), R. nudiflorum, R. calendulaceum, R. molle, Pieris japonica, Kalmia latifolia, K. angustifolia and Zenobia speciosa. Among the more vigorous Lilies, evergreen Rhododendrons in variety, also species such as R. yunnanense, R. campylocarpum, R. cinnabarinum, Pieris formosa, Berberis Darwinii, Fothergilla major, Hamamelis mollis, and Tree Heaths such as Erica lusitanica, E. arborea, E. australis and E. mediterranea may be used. Escallonia exoniensis and Cornus alba are not quite suitable shrubs for the purpose.

DAPHNE UNHEALTHY (*F. S. J.*).—As far as we can decide without seeing the plant, we should say that the roots of the Daphne are in an unhealthy condition, and have been gradually getting worse for some time. Your better plan will be to leave the plant undisturbed at the roots till next March, then turn it out of the pot and take away as much of the old soil as you can without unduly distressing it. This will give you an opportunity to ascertain the condition of the roots. If they are in a poor state, as we expect will be the case, all decayed roots should be cut off, and the plant repotted in a mixture of equal parts of loam and peat with a good sprinkling of silver sand. In all probability you will find that the roots may be comfortably accommodated in a pot smaller than that in which the plant was in before. That, of course, is a matter for you to determine. After potting, the plant should be stood in a shaded part of the vinery and lightly syringed two or three times a day. Enough water must be given to keep the soil moderately moist, but particular care should be taken not to make it too wet. If the new roots take possession of the fresh soil, the plant may be stood outdoors during the summer.

MISCELLANEOUS.

SOIL ANALYSIS (*J. P.*).—There is more in this subject than meets the eye. Our leading soil experts do not appear to attach very great importance to soil analysis. The subject is dealt with in a special article in our issue for October 27. If there are any points arising out of the article on which you are not clear, kindly send a line and we will do our best to help you.

SOIL ANALYSIS AND HEAVY CROP OF POTATOES (*G. S.*).—The article on this subject, issue October 27, page 456, is an answer to the points which you raise. So far as the extraordinary crop of Potatoes is concerned, it cannot be too widely recognised that not only do the preparation and cultivation of the soil as well as its manuring and the variety of Potato grown count in the kind of yield obtained, as well as the weather conditions prevailing during the growth period, but also the source of the seed tubers, *i.e.*, whether they were grown in, say, Scotland, or Ireland, or in the South of England; the treatment after lifting, the greening, sprouting and careful planting, and the attention to checking of pests.

VARIOUS QUESTIONS (*A. M., Hants*).—We do not recognise the "Star-flower"; the other plant referred to is Anchusa myosotidiflora. The death of the Chrysanthemum leaves is doubtless due to irregularities in watering. Care must be taken in watering all through their growth, and plants in pots often need attention three times a day during hot, sunny weather. The cracking of Figs is also due to irregularities in the water supply, but Pears crack generally on account of the attack of the Pear scab fungus upon them. We have frequently referred to this disease in these columns, and recommend you to cut out any spurs or branches that show signs of cracking in the bark, and to spray the tree with Bordeaux mixture just before the buds burst and again after the petals have fallen.

INSECTS TO NAME (*C. M.*).—No. 1 is an ichneumon fly that lays its eggs in the bodies of caterpillars, which are devoured while they are still living and feeding. No. 2 is the grub of the Narcissus fly. All bulbs should be examined at planting-time for this pest, and, when found, either the bulb, grub and all, should be destroyed or the grub carefully removed and burned. No. 3 had vanished. It was not an insect, but either a millepede or a centipede.

CATERPILLAR TO NAME (*G. B.*).—The caterpillar you describe is probably that of the tussock moth, a widespread and rather common moth in many parts of the country. The caterpillar feeds on various trees.

CULTIVATION OF CARAWAY (*B. H. H.*).—Seeds of the Caraway (Carum Carui) should be sown about the end of March or early in April in good, well-drained loamy soil which has been reduced to a fine tilth on the surface. Sow thinly and thin the plants to about 6 inches apart. When grown in fields the seeds are usually sown thinly broadcast or in rows, and the plants are left unthinned. Keep free from weeds, and collect and dry when the seeds are fully grown and turning brown. When the plants are cut over or pulled up, they should be laid on sheets so that the seed is not wasted.

NAMES OF FRUIT.—*W. L., Godalming.*—French Crab.——*Marthall Vicarage.*—Probably Smart's Prince Arthur.——*S. C. A.*—1, Cellini Pippin; 6, Boston Russet. Quite impossible to name the rest of the fruits with any accuracy; they are such poor specimens.——*E. T.*—1, Gloria Mundi; 2, King of the Pippins; 3, Worcester Pearmain.——*A. R. H. F., Bristol*—1, Tom Putt; 2, Emperor Alexander; 3, Beauty of Kent; 4, Newton Wonder; 5, Gravenstein.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from 20, Tavistock Street, Covent Garden, W.C.2.*

OBITUARY

WORTHINGTON GEORGE SMITH.

By the death of Mr. W. G. Smith, which occurred on October 27, we lose a celebrated botanical draughtsman. Born in London in 1835, his early years were spent as a drawing student of Greek and Roman sculpture. The study of ancient sculpture and ornament led him to pay close attention to plant forms, and ultimately to botany. In 1869 he was chosen as chief illustrator for the *Gardeners' Chronicle;* he was afterwards editor and illustrator in colours for the *Floral Magazine.* He was an exceedingly versatile man, a well-known writer of books on fungi, and a great antiquarian.

A. PERCY BURCH.

It is with much regret we have to announce the death of Corporal-Major A. Percy Burch (Life Guards), son of Mr. W. H. Burch of the well-known Rose Gardens, Peterborough. The brave lad was killed in action on October 12 in the vicinity of Ypres. He had taken an active part in the Rose nurseries and was very skilled as a grower and as an exhibitor of Roses, and for several years assisted as one of the judges at the National Rose Society's and other shows. He was held in the greatest esteem by all who knew him.

H. C. LAWRENCE.

The death of Mr. H. C. Lawrence, florist and seedsman, Chatham, on October 14, has removed one of the best known and most successful men in the horticultural trade of Kent. A native of Cambridge, Mr. Lawrence came to Rochester in 1868, and in a small way founded the business of Messrs. H. C. Lawrence and Sons. In 1882 Mr. Lawrence acquired a site which enabled him to erect premises that gave the ancient High Street a new feature. These were reconstructed some years later to admit a large conservatory and other plant-houses above the shop with level access from the rear, giving a very handsome elevation to the whole. A nursery at Luton enabled Mr. Lawrence to supply his extensive local trade, chiefly by his own culture. Of a very genial disposition, Mr. Lawrence enhanced business acumen with a winning personality, always tending to success. Mr. Lawrence took part in public life as a town councillor for some years, and in other ways, but his chief interests were in the culture his business entailed and in landscape gardening. He is succeeded in the business by his only son, Mr. A. Lawrence.

Supplies of Seed Wheat of the 1917 Crop.—The Food Production Department is offering farmers a special selection of seed Wheat of the varieties known as Wilhelmina, Little Joss, Victor and Browick. The seed has been selected and cleaned with great care, and the percentage of purity is in no case less than 99. The selection was undertaken by a special committee under the direction of Professor Biffen. Standing crops were inspected by these experts in all the English Wheat-growing districts in order that only crops of outstanding quality might be chosen for the Department's seed Wheat orders. The price of this selected seed is 90s. per quarter of 480lb. f.o.r., including new non-returnable sacks. Parcels of the seed Wheat are stored at a number of centres throughout England, and the Department will endeavour to supply the seed from the district indicated by the purchaser on his order form. Samples may be had from the Food Production Department, 72, Victoria Street, London,

SPECIAL REDUCED PRICES
EARLY SCOTCH SEED POTATOES.

BEES Ltd. are now completing lifting and grading, and find crops heavier and cleaner than usual. Instead of putting this extra profit into their own pockets they are reducing prices to customers.

Orders are now being booked at prices quoted below for delivery when ready.

Orders already booked will also be executed at these reduced prices.

Special Terms to Allotment Societies.

	112lbs.	56lbs.	28lbs.	14lbs.	7lbs.
Epicure (Scotch). An old favourite which produces very heavy crops, and has tubers of good size ready to lift very early ...	15/-	8/-	4/4	2/3	1/2
Eclipse (Scotch). Splendid white round, very early, shallow eyes, good cooker...	18/-	9/6	5/-	2/9	1/6
Eclipse. Once grown in Yorkshire	18/-	9/6	5/-	2/9	1/6
Sharpe's Express (Scotch). A great favourite, very early; smooth skin, heavy cropper	23/-	12/-	6/4	3/3	1/9
Sharpe's Express. Once grown in Lincolnshire	21/-	11/-	5/10	3/-	1/7
Sir John Llewellyn (Lincs.) First class in every way	21/-	11/-	5/10	3/-	1/7
British Queen (Scotch). Remarkably fine, both as regards cropping and cooking qualities. A superb second early; keeps well	15/-	8/-	4/4	2/3	1/2
British Queen. Once grown in Lincolnshire	15/-	8/-	4/4	2/3	1/2
Pioneer (Scotch). A greatly improved second early; first-class cooker and cropper	21/-	11/-	5/10	3/-	1/7
IMMUNE SEED POTATOES. Bees Ltd. are licensed by the Board of Agriculture to supply varieties suitable for planting in districts affected with Black Scab or Wart Disease.					
King George (Scotch). Although generally classed as a second early, this variety when grown from sprouted seed is ready for lifting as early as "Sharpe's Express" or "Epicure." It is an excellent cropper, does well everywhere, especially on medium and heavy soils. Owing to first early immune sorts being practically unprocurable, "King George" is in great demand as a first early.	18/-	9/6	5/-	2/9	1/6
Great Scot (Scotch). Second early, immense cropper, fine quality and flavour. Keeps as well as a main crop, strongly recommended.	18/-	9/6	5/-	2/9	1/6
Great Scot (Lincolnshire seed)	16/-	8/6	4/6	2/6	1/4
The Ally (Scotch). A second early immune variety with tuber of fine quality and shape, heavy cropper	24/-	12/6	6/6	3/6	2/-

(An excellent set of three potatoes for infected areas would be "King George," "Great Scot," and "Lochar" or "Templar." Prices of main crop sorts will be quoted later.)

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The above prices include cost of bags. If carriage is to be prepaid, please remit as under:—

	112lbs.	56lbs.	28lbs.	14lbs.	7lbs.
Up to 50 miles	1/3	1/-	-/8	-/7	-/7
,, 100 ,, ...	1/9	1/2	1/-	-/8	-/7
,, 200 ,, ...	2/4	1/7	1/2	-/11	-/7
Over 200 ,, ...	3/2	2/1	1/5	1/-	-/7

(To ascertain distance from Liverpool to your station look up passenger fare in time-table, which is calculated at about 1d. per mile. Thus, if ordinary passenger fare is between 4/3 and 8/4, the distance will be between 51 and 100 miles).

Shallots. 1lb. 1/2, 3½lbs. 3/-, 7lbs. 5/9, 14lbs. 10/6 Carriage paid.

Onion Sets. 1lb. 2/6, 2lbs. 4/6, 3lbs. 6/6, 4lbs. 8/6, 5lbs. 10/6 Carriage paid.

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Weeping Standards, from 2/6 each; Standards and Half-Standards, 2/6 each. Bush, Climbing, Ramblers, Fairy or Polyantha Roses, China and Moss Roses, strong, 7/- 8/-, 9/- and 10/- per doz. Orders for 10/- and over carriage paid for cash with order. Fruit Trees, Bush Fruits, Evergreen and Flowering Shrubs, Oval-leafed Privet, etc.; Bulbs, Wallflowers, etc. Catalogue and list free on application.

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FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

LAST week I recommended separating the males from the females at the close of each breeding season. They should be placed together in a flock "fathered" by an adult cock to keep order, moulted out, and be carefully handled throughout the winter. When they are needed in the breeding pens, they will under such treatment be full of vigour and throw robust progeny. Cockerels that are just "finishing off" and are being reserved for next breeding season should also be quartered in one flock, a fatherly old cock being placed with them to play the part of "policeman."

To Prevent Fighting.—Several correspondents ask if newly-purchased cockerels should be placed with the pullets or hens at once. One seeks my opinion as to whether two fresh cockerels will come to harm through fighting if they are placed with 1917-hatched males of his own breeding. Where it is not possible for the owner to winter the males apart from the females, there is no alternative but for him to place the purchased cockerels with the hens or pullets they are to take care of. If he has suitable accommodation, let him run the males in one flock throughout the winter and thereby nurse their energies until mating-time comes round. To prevent fighting, the introduction of Mr. Policeman into a flock of young cockerels will help to keep order. Directly he observes a fight he will interfere and separate the combatants.

The "Tango."—When strange cockerels are placed together in a flock they invariably fight to decide which one is to be "cock of the walk." Bloodshed is the result, and occasionally some pay the supreme sacrifice. To hasten peace, take each cockerel and tie a piece of string (above the spur) to the right leg. Let the string hang a trifle loosely between the legs and fasten the other end to the left leg. This operation will not interfere with their walking, but they will be prevented from "giving chase." Their antics will rather remind you of the "Tango," perhaps, but it is effective, as you will find. When so tied the birds can fly up to the perches and walk about comfortably, but they cannot fight or use their spurs. There must not, of course, be too much spare string between the legs. When peace sets in, remove the strings, and if, after this, one male gives trouble and shows fight, let him remain tied up for a little longer. When the combs and wattles bleed after a combat they should be treated with Friar's Balsam. Males of the large-combed breeds call for careful management in the winter. In very cold weather it is a good plan to anoint the combs and wattles with vaseline to prevent frost-bite, the latter being detected by a shrivelling and darkening of the headgear.

Winter Egg-Production.—Many correspondents have written for advice on matters touching upon the winter laying of pullets. A few helpful reminders will not be out of place here, and those who carry them out should be able to bring their pullets on to lay if the birds are well matured and of correct hatching. The nesting-place should receive primary attention, because pullets will postpone laying if they are not provided with comfortable nest-boxes. The latter should be made as tempting as possible, being well lined with nesting material. Pullets are peculiar little creatures, and the owner must study their fads. They like to have plenty of material in which they can "hide" themselves when attending to their laying duties. It is due, I expect, to their *natural* love of secrecy. Be that as it may, every poultry-keeper should provide clean nesting material *ad lib.* during the winter months to obtain the best results by way of eggs.

Dark Nests Desirable.—Pullets, too, take more readily to nest-boxes that are fixed in a dark corner of the house—another example of their natural love of secrecy, and readily understood by the ardent student of fowl culture, who must notice how birds on free range like to steal away and "nest" in some quiet spot in the hedgerow. Considering, then, that the pullet of to-day is placed in artificial environment, the owner must provide for her fad and adopt reasonably dark nests. By accommodating the pullet in this matter the poultry-keeper incidentally benefits in other directions. Light nests are more often than not to blame for egg-eating, or, at least, for encouraging the habit to spread. If an egg (perhaps a soft-shelled one) by chance gets broken, the layer can see to relish the yolk if the nest is light, and her sisters can see what is going on and join in the yolk-scramble. In a dark nest, once the egg is laid, the hen or pullet is handicapped owing to "low visibility."

Dummy Eggs.—The use of the dummy egg is not so popular as it was in years gone by, except, perhaps, in certain country places. I am still fond of the dummy egg for enticing pullets to lay, although it should not be left permanently in the nest. These dummy or china eggs of which I write can be purchased from any large poultry appliance firm, and one should be placed in every other nest. When the pullets are in lay the dummies should be removed, and they will come in useful again during the hatching season. By their use the merits of a broody hen can be tested. If she sits steadily on the china eggs and means business, the real eggs can be entrusted to her. Many declare that the idea that dummy eggs entice the pullets to commence laying is a fallacy; but I do not agree with them. Most members of the feathered tribe are easily hoodwinked, except, perhaps, the duck, who is a "wise old bird." The reader has but to recall his boyhood days, when as a *cruel burglar* of birds' nests (so it seems to us now) he substituted bright-hued spotted sweets for the stolen eggs. Unsuspecting, the little bird laid beside those dummies further eggs to be called for on the next visit.

The Real Eggs.—Having dealt fully with the nest-boxes in which the eggs are to be deposited, let us now consider the real article. The average poultry-keeper is under the impression that a pullet (or hen) cannot hold back her egg-supply. If this were so, winter egg-production would be an easy matter. The unfortunate part is that a fowl *can* postpone her laying, and that is why eggs are often not forthcoming. The pullet is not comfortable, or some essential or other is being denied her. A house cannot be built without material, and a pullet cannot lay eggs without shell. Would that every poultry-keeper realised this! It is wrong to wait till the first egg is laid before supplying shell. This vital material should be provided *ad lib.* long before maturity is reached.

Grit and Clean Water.—Hanging up in each house, as I have previously pointed out in my notes, there should be three self-supply hoppers containing respectively (1) shell, (2) grit, and (3) coarse charcoal. These are vital essentials. Where there is a dearth of shell provided, laying will be postponed, and when the eggs are ultimately laid they will be soft-shelled. Do not be misled into thinking that fowls on free range can find their own supply of shell; take precautions to have sufficient always before them. Having dealt with the exterior of the egg, what of the interior? An egg consists chiefly of water—from 50 to 70 per cent.—so that it is imperative to provide an ample supply of clean drinking water. Let one person attend to the replenishing of the drinking vessels to make sure that the fowls are never short of water. Well scald out the receptacles regularly and rinse round with weak Izal disinfectant wash each time. Wire off all stagnant pools, as *clean* water is highly essential. In frosty weather stir the grit and shell to prevent them from freezing hard and being unavailable for the birds. Empty the drinking vessels overnight to prevent the contents from freezing; fill them up in the morning.

Quietude Desirable.—Pullets are nervous little creatures, and they must on no account be unduly disturbed when they are on the point of laying. This is a delicate period, and the same person should, as far as possible, visit the birds and attend to their feeding and management. The owner should be similarly dressed each time he or she goes near the pullets, in order to get their confidence. There should be no banging of gates or doors, no barking of dogs, and no noises from children while the pullets are settling down to their laying. Houses are best cleaned out quietly while the pullets are fully occupied eating their breakfast.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C. 2.*

re has endowed hens with plenty of eggs, but poultry
rs do not use the right food to develop these, consequently
keep their birds for about six months in the year for
urn, so that those which are produced during the remain-
f the period have to be relied on as the sole return for the
outlay.

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large stock of birds (6,000 head always mated up for
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only one which develops eggs without the birds becom-
ver-fat in the process.

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or a few fowls a 6s. bag, or for twenty or more one at
1s., will prove that this is the egg-producing, health-
romoting food everyone who is a poultry keeper has
een looking for for years.

**ny letters are received daily from satisfied users
l parts of the country, and the following are a few
ose recently to hand :—**

eley, Knaresboro' Road, Harrogate. 22nd Oct., 1917.
ll you be good enough to send me a further bag of Ideal
? *My two year old birds are still laying and I attribute
o your meal.* G. F. PILLMOOR.

Barrington Road, Brixton, S.W. October 22nd, 1917.
ave given your Complete Ideal Meal a fair trial and am
ctly satisfied with the results and shall certainly recom-
it to my all friends. A. GIDDINGS.

31a, Bridge Street, Swinton, Rotherham, Yorks.
October 20th, 1917.
m glad to tell you that the Meal arrived last Tuesday.
*e never been without eggs since using your Meal. My hens
moulted easily and quickly on your food.* A. HARRISON.

11, Marine Place, Seaton, Devon. October 24th, 1917.
ll you forward another bag of your No. 1 Ideal Meal. *I
ery pleased indeed with the results from this food.*
F. W. DAVIES.

17, Coronation Road, Washwood Heath, Birmingham.
October 23rd, 1917.
*nclose another order for Original Ideal Meal, for I cannot
rual satisfaction elsewhere. I am glad to tell you I have
ed two more customers for your food.* C. WEAKES.

Gas Works House, Stafford Street, Stone, Staffs.
October 23rd, 1917.
l you send me another cwt. of your Complete Ideal Meal ?
*ur food is good stuff and is cheaper than anything else to
ght.* A. QUICK.

18, The Broadway, Muswell Hill, October 20th, 1917.
ertainly find your Complete Ideal Meal *the most economi-
ethod of feeding and by far the most profitable for egg pro-
n,* order enclosed for another sack. W. R. CUMMINS.

The Wycombes, Rochester. October 23rd, 1917.
ll Messrs. Cook send Mrs. A. another cwt. of Complete
Meal which is most satisfactory ? Her fowls are all
endid condition on it.

188, Ravenscroft Road, Beckenham.
October 19th, 1917.
nclose order for myself for 1cwt. Complete Ideal Meal
wo tins Poultry Powder, also for ½-cwt. to be sent to Mr.
Elmers End Road, who has been so interested in the way
owls have laid on your food that he has decided to try it,
have had more eggs this season from sixteen than he has
from thirty, so he has need to wonder why mine have
so well. It is solely due to your Meal. H. G.

7, Elm Road, Horns Cross, Greenhithe.
October 20th, 1917.
nclose order for 2cwts. Original Ideal Meal which I have
l to be excellent for hens for egg production. M. F.

37, Broad Street, Oxford. October 16th, 1917.
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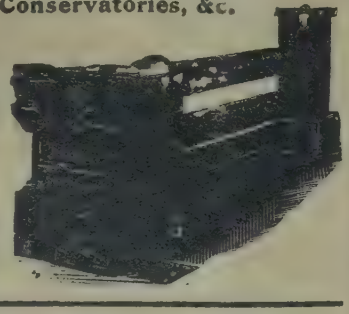

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THE

GARDEN

A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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A splendid assortment. **15/6** Carriage paid.

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G. C. Waud (ht),orange ver. 10d.
Gen. McArthur (ht), scarlet 10d.
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La France (ht), rose - - 9d.
La Tosca (ht), salmon flesh 10d.
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Lady Ashtown (ht),deep pk. 9d.
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Mme. Segond Weber (ht),sal. 10d.
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Fragrant Roses
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12 chosen chiefly for their abundant delicious scent.
Colouring gorgeous. **7/9** Carriage paid.

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Earl of Gosford (ht),crimson 10d.
George Dickson (ht),vel.cri. 10d.
General Jacqueminot (hp),cr. 8d.
Gen. McArthur (ht),crimson 10d.
Juliet (hb),old gold and red 10d.
La France (ht), rose - - 9d.
Lady Alice Stanley (ht),pink 10d.
Mme. Ed. Herriot (per),red 10d.
Mrs. John Laing (hp),rosy pk. 8d.
Ulrich Brunner (hp),cher.red 8d.

Buttonhole Roses
SELECTION "F."
12 charmingly coloured and daintily formed in bud.
Last well when cut. **8/6** Carriage paid.

Harry Kirk (t), yellow - 10d.
Lady Hillingdon (t),apri.yel 10d.
Lady Roberts (t),reddish apri. 10d.
Liberty (t), velvety crimson 9d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Jean Dupuy (ht),rose 10d.
Melody (ht), saffron yellow 1/-
Mrs. A. Ward (ht), yellow 10d.
Mrs. G. Shawyer (ht), pink 10d.
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Richmond (ht), scarlet - 10d.
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Best Sorts. **18/6** Strong trees. Carriage paid.

1 Bramley's Apple, cooker.
1 Lord Suffield Apple, cooker.
1 James Grieve Apple, dessert.
1 Cox's Orange Pippin, dessert.
1 Louise Bonne Pear, cook or eat.
1 The Czar Plum, cook or eat.
1 Victoria Plum, cook or eat.
1 Morello Cherry, cooker.
1 Loganberry, for tarts or jam.
4 Boskoop Giant Black Currant.
4 Whinham's Gooseberry.
12 Superlative Raspberry, best.
All are very free-bearing, hardy, thrifty sorts.

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SELECTION "K."
12 first-class sorts, suitable for general use.
Do well everywhere. **6/6** Carriage paid.

Betty (ht), coppery rose - 10d.
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Fisher Holmes (hp),cri.scar. 8d.
F. K. Druschki (hp), white 10d.
H. E. Richardson (ht),crim. 10d.
Hugh Dickson (hp),crimson 8d.
Lady Ashtown (hp),deep pk. 9d.
Lyons Rose (ht),shrimp pk. 10d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Ed Herriot, red - 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. J. Laing (hp),rose pink 8d.

Gold Medal Roses
SELECTION "L."
12 newer sorts, all gold medallists but two.
Creme de la creme. **9/-** Carriage paid.

British Queen (ht),snowyw. 10d.
Dchs. of Wellington, yellow 1/-
George Dickson (ht),deepcri. 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),coppery-sal. 10d.
Leslie Holland (ht),vermilion 10d.
Mabel Drew (ht), cream - 10d.
Mme. E. Herriot (per.)pr.red 10d.
M. de Sinety (ht),gold bronze 1/-
Mrs. A. Carnegie (ht),white 10d.
Rayon d'Or (per.), golden - 1/-
Willowmere (per.),coral pk. 10d.

Climbers, Ramblers
SELECTION "S."
6 roses suitable for trellis, pillars, arches, pergolas, &c.
All very vigorous. **4/9** Carriage paid.

Alberic Barbier (W.),yellow 11d.
American Pillar (cl.,P.),pink 11d.
Blush Rambler (cl.,P.),blush 11d.
Dorothy Perkins (W.), pink 11d.
Excelsa (W), bril. scarlet - 11d.
Hiawatha (cl.,P.), crim.wh. 11d.

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Wallflowers, red - 10d.	5/-	
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Iceland Poppies, mxd.	2/6	15/-
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Pink Beauty Hybrids	1/3	8/-
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Hardy Auriculas -	3/-	20/-
Purple Aubrietia, pots	4/-	30/-
Silvery Rockfoils -	4/-	30/-
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Continuous display. **6/-** Carriage paid.

Alkanet, blue	Lupin, yellow.
M'mas Daisy, lil.	Iris, rich blue.
Marguerite, white	Pyrethrum, 1½ft.
Larkspur, violet.	Fleabane, mauve
M'mas Daisy, ma.	Hybrid, C'mbine.
Dragon's-head, car.	Pink Knotweed.
Larkspur, blue	Avens, scarlet
M'mas Daisy, pk.	Catmint, lavender
Red Elecampane.	Blue Bellflower.
Scarlet Campion.	Blue Flax.
Blue Lupin.	Golden Marguerite
White Bellflower.	Mimulus, scarlet
Poppy, Pink.	Jacob's ladder
White Lupin	Speedwell, blue.
Gypsophila.	Double Pyrethrum

Exhibition Roses
SELECTION "B."
24 specially-selected varieties. Assured prize winners. **15/6** Carriage paid.

Avoca (ht). crimson scarlet 10d.
Bessie Brown (ht),creamyw. 10d.
British Queen (ht), white - 10d.
Chas. Lefebvre (hp),crimson 8d.
Coronation (hp), flesh pink 10d.
Dean Hole (ht), silvery rose 10d.
Earl of Gosford (ht),dk.crim. 10d.
Ethel Malcolm (ht),ivory w. 10d.
Gl. de C. Guinoisseau (hp),ver. 8d.
George Dickson (ht),vel.crim. 10d.
Hugh Dickson (hp), crimson 8d.
J. B. Clarke (ht), crimson - 10d.
Jonkheer J.L. Mock (ht),car. 10d.
Leslie Holland (ht),scar.cri. 10d.
Mabel Drew (ht),canary yel. 10d.
Lyons Rose (ht),shrimp pink 10d.
Mrs. C. West (ht), shell pink 10d.
Mildred Grant (ht),tinted w. 10d.
Mrs. Amy Hammond (ht),ap. 10d.
Mrs. Andrew Carnegie (ht),w. 10d.
Mrs. John Laing (hp), rosy pk. 8d.
Mrs. J. H. Welch (ht), pink 10d.
Mrs. Roosevelt (ht),pale flesh 10d.
Ulrich Brunner (hp),cher.red 8d.

Town Roses
SELECTION "E."
12 sorts proved suitable for growing in smoke.
Immensely successful. **7/9** Carriage paid.

Caroline Testout (ht),sal.pink 9d.
Dr. O'Donel Browne (ht),car. 10d.
F. K. Druschki (hp), white 10d.
George Dickson (ht), crim. 10d.
Gustave Grunerwald (ht),car. 10d.
J. B. Clark (ht),deep scarlet 10d.
La Tosca (ht),silvery pink - 10d.
Mme. Ed. Herriot (per),red 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. John Laing (hp),rose pk. 8d.
Mme. Isaac Pereire (b), car. 8d.
Ulrich Brunner (hp),cher.red 8d.

Dwarf Bedding Roses
SELECTION "I."
12 perpetual, free-flowering sorts, of bushy habit.
Surprisingly effective. **8/6** Carriage paid.

A. R. Goodwin (per.),sal.pink 10d.
Betty (ht), coppery rose - 10d.
Dchs. of Wellington, saffron 1/-
Ecarlate (ht), scarlet red - 10d.
Earl of Warwick (ht),sal.rose 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),apricot pink 10d.
Mme. Ed. Herriot, red - 10d.
Molly S. Crawford (t),white 10d.
Mrs. A. Ward (ht),Indian yel. 10d.
Rayon d'Or (hb),orange cad. 1/-
Richmond (ht), scarlet - 10d.

HARDY SHRUBS
"Hey Presto" Selection
Suitable towns' small gardens. **6/-** Carriage Paid.

Purple Speedwell, evergreen.
Double Gorse, yellow.
Sea Tamarisk, soft pink.
Spiræa, Anthony Waterer, red.
Spanish Broom, fragrant, yellow.
Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
Piptanthus, new, from China.
Giant Mock Orange, white.
Starry Daisy Bush, white.
Lavender, true fragrant sort.
Hardy Scotch Fuchsia, red.
Golden Forsythia, very choice.
May Broom, very pretty.

For Illustrations in Colour
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(See illustration in last week's issue of "The Garden," p. 485.)

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All Bulbs guaranteed strong flowering, and of best quality; money back if not satisfied.

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20 Emperor Daffodils, 1s.
The finest of the well-known sorts, grandly-shaped and well-coloured flowers; does well indoors or out.

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20 Horsfieldi Daffodils, 1s.
Snowy-white petals; rich yellow trumpet; very handsome and early; borders or pots.

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Primrose and gold; early flowering; specially recommended for borders and beds outdoors.

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White and gold; a most graceful flower; very hardy; does remarkably well in shade.

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20 Golden Spur Daffs., 1s.
Glorious orange-gold shaded citron; most magnificent flower; quite unsurpassed.

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20 Sir Watkin Daffs. 1s.
Deep orange frilled trumpet, rich gold petals; a huge success everywhere indoors and out.

7.
35 Barri Narcissi, 1s.
Orange-scarlet cup, golden petals; light, graceful, free-flowering; splendid in fibre or soil.

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15 Double Yellow Daffs., 1s.
Huge double, golden-yellow, rose-shaped flowers; excellent all purposes.

9.
30 Double White Narciss., 1s.
Fragrant as a Gardenia; pure translucent white; blooms well into May.

10.
20 Double Orange Phœnix, 1s.
The famous Eggs and Bacon Daffodil; absolutely tip-top; very hardy and free.

11.
40 Pheasant Eye Narciss., 1s.
Crimson, edged orange cup, purest white petals; flowers often 3 inches across.

12.
30 Ornatus Narcissus, 1s.
Vivid scarlet cup surrounded by snowy-white petals; first-class everywhere.

PEACE CELEBRATION COLLECTION.
"Get your flags ready!" So said, recently, a popular war writer who has had exceptional opportunities afforded him to see how matters are going.
100 Daffodils, 100 Narcissi, 100 Tulips.
Total: 300 fine bulbs, 10/-, carr. paid, c.w.o.
25 each. 50 each.
Clara Butt, Gold Crown. Emperor, Ornatus.
Gesneriana, Paris White. Horsfieldi, Barri.
For descriptions, &c., see below.

14.
30 Large White Freesias, 1s.
The true refracta alba for growing indoors in pots of soil or fibre.

15.
20 Xmas White Narcissus, 1s.
French Paper White Narcissi cannot be supplied; this variety is in many respects superior.

16.
20 Grand Primo Narciss., 1s.
Primrose and gold; otherwise a counterpart of the Early Paper White; very fragrant.

18.
4 Violet-scented Iris, 1s.
Rich velvety violet with orange throat; deliciously scented; does well indoors or out.

20.
16 St. Brigid Anemone, 1s.
Huge, semi double flowers in all shades of blue, violet, scarlet, rose, white, etc.

21.
30 Golden Winter Aconite, 1s.
Rich buttercup-yellow, with a dainty green ruffle; makes a fine edging.

22.
16 Scarlet Anemone, 1s.
The most vivid scarlet flower of Spring; irresistibly attractive; everybody stops to gaze at it.

23.
30 Bluebells (Scillas), 1s.
Do well in pots of soil or fibre; a great success under trees and in other shady places.

24.
25 Double Snowdrops, 1s.
Try these in pots of soil or fibre; they are exquisitely pretty when looked at closely.

25.
30 Single Snowdrops, 1s.
For planting as an edging to other bulbs, in beds, on graves, borders, &c.

26.
20 Clara Butt Tulip, 1s.
Most glorious pink, shaded salmon and silver; a huge success indoors and out.

27
10 F. Sanders Tulip, 1s.
An incredibly dazzling shade of fiery scarlet; a most entrancing colour; huge size; perfect form.

28.
10 White Queen Tulip, 1s.
The only "white" Darwin, a stately and fine Tulip; huge, goblet-like blooms

29.
15 Tonnaye Tulip, 1s.
Rich cherry-rose, shaded blush, edged delicate pink: one of the most useful.

30.
15 Laurentia Tulip, 1s.
Deep rosy-pink, shaded carmine, with a startlingly rich blue centre; extra.

31.
12 Mrs. Cleveland Tulip, 1s.
Old lavender-rose, shaded lilac and silver; flowers early; large size and stately habit.

32.
25 Gold Crown Tulip, 1s.
Rich golden-yellow, shaded and flamed scarlet; fine bedding and borders.

33.
15 Gesneriana Major Tulip, 1s.
Brilliant glowing scarlet, dazzling blue centre; one of the most gorgeous of all Tulips.

34.
20 Sweet-scented Tulip, 1s.
T. macrospila has the fragrance of Sweet Peas and a fine crimson-scarlet colour.

36.
10 Inglescombe Yellow Tulip, 1s.
Perfection in form and colouring; deep canary-yellow; magnificent.

37.
20 Maiden's Blush Tulip, 1s.
One of the daintiest; white edged and feathered with rosy-cerise; the Picotee Tulip.

38.
15 La Candeur Tulip, 1s.
Pure white; very scarce; fine for bedding, borders, pots, &c.; good for cutting.

39.
15 Parisian Yellow Tulip, 1s.
Rich yellow; elegant flower; showy and reliable; beds, pots, borders, &c.

40.
20 Cottage Tulips, Mixed, 1s.
A very fine showy mixture; can be well recommended. Special price per 100, 4/6.

41.
15 Darwin Tulips, Mixed, 1s.
Includes a lot of fine art shades; very useful for cutting. Per 100, 6/6.

42.
50 Mixed Daffs. and Narciss., 1s.
Includes many handsome sorts, such as Emperor, Barri. Per 1,000, 18/-

43.
1 Peck "Bulbost," 1s.
Bees' Famous Bulb Fibre Compost. Sent Carriage Paid with Bulbs of 10/- value.

44.
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THE GARDEN.

No. 2400.—Vol. LXXXI.] [November 17, 1917.

NOTES OF THE WEEK

THE organisation and consolidation of the allotments movement has made rapid progress within recent weeks. Following upon the decision to form a federation for London and the Southern Counties, a National Union of Allotment Holders has been established. Appointments have been made in connection with the Southern Federation. Mr. Frank Smith, chairman of the Vacant Land Cultivation Society, 8, Buckingham Street, Strand, which has taken a leading part in organising the food plot cultivators of London and the South, has been elected chairman of the Provisional Council of the Southern Federation. Mr. Cyril Harding is hon. secretary; Mr. Gerald W. Butcher, hon. organising director; Mr. H. F. Garrard, hon. treasurer. The offices are at 8, Buckingham Street.

A Great Organisation of Allotment Holders. At a meeting of representatives of the Southern Federation and the Midland Federation, at which it was unanimously decided to form the National Union of Allotment Holders, the following officers and executive were appointed to conduct the business of the Union until the first general meeting in December next: Chairman, Mr. T. Bladon (Birmingham); vice-chairman, Mr. Frank Smith (London); treasurer, Mr. New (Birmingham). Mr. D. Chater (Seven Kings) has been appointed organising secretary for London, adjacent and Southern Counties, and Mr. G. Streetly, 55, Temple Row, Birmingham, is organising secretary for Birmingham, the Midlands and the North. Mr. J. R. White, 46, Paulton Square, Chelsea, is propaganda and Parliamentary secretary. The executive of the Union comprises three representatives from the Northern Division, three from the Midland Division, three from the Southern Division, and the Scottish and Welsh Division have been invited to appoint two representatives each. The Southern Federation is making good headway, and already the membership approaches 20,000. A great organising campaign is about to be started with the object of securing the affiliation of societies in all the outlying districts and educating public opinion to the immense advantages to the community of allotment cultivation, not only in war-time but for all time.

High-Priced Potatoes.—Some thirteen or fourteen years ago there was quite a craze (for it could be regarded as nothing else) in favour of high-priced Potatoes. Now this useful vegetable has once again come to the fore, but in a more rational manner, and we no longer hear of exorbitant prices being paid for particular varieties. In the height of the craze the variety Northern Star was brought forward as being in every respect a perfect Potato, and was eagerly bought. Being so much lauded at the time, one is inclined to ask, Where is it now? Though this seems to have disappeared, other kinds much older than that still hold their own in many places.

Sedum pulchellum.—This beautiful Stonecrop is seldom more attractive than it is to-day when the glaucous green of its fuzzy leaves are turning to gold and shining crimson. This year flowering has been prolonged beyond the usual limit, there still being a number of the lovely bright pink, bird's claw blossoms held erect on their 4-inch stems. S. pulchellum, unlike so many of its race, prefers rather a cool roothold, one where there is some natural moisture if possible, and something good to live on. It is a subject worth some trouble, and those who have been disappointed with it may try it in a damper bed and note the change.

A Handsome Laurustinus.—In the article on "Laurustinus," issue November 10, page 482, Mr. A. R. Goodwin remarks that of the numerous varieties of Viburnum Tinus, he grows only one, viz., lucidum from Mount Atlas. Our correspondent is fortunate in his selection, for this is unquestionably one of the most handsome of all the varieties. In habit it is stronger than the type, although perhaps less hardy. The glossy green leaves are larger than those of the species; so, too, are the trusses of bloom, which, by the way, are not always pure white, but are sometimes of pinkish hue.

A BEAUTIFUL EVERGREEN, VIBURNUM TINUS LUCIDUM

The Tulip Nomenclature Report.—In last week's issue, page 479, a correspondent expresses regret that the Report of the Tulip Nomenclature Committee recently published by the Royal Horticultural Society does not give the names in alphabetical order. As a matter of fact there is an index, but apart from this the names are arranged in a very convenient and useful order, for, as explained in the Report, an endeavour has been made to arrange the varieties as they might be in a border, so that they form a colour sequence grading off towards the sections above and below. Where this careful grading is not employed, the sections are given in alphabetical order. It is, in fact, a most valuable record, and we believe that if the Darwins were planted in a long line in the order given, there would be very little to alter in the gradation from vermilion scarlet through cerise and magenta to rose, and from crimson maroon to lilac. This careful piece of work was done by Mr. E. A. Bowles and Mr. Titchmarsh, who laboured at it for days together with blooms of each variety before them.

Chrysanthemums from Seed.—When every little dodge that saves time and labour in our gardens is ever so much more valuable than it would be under ordinary circumstances, it may be well to remind readers that, unless they are particular as to the varieties which they grow, excellent results may be obtained from Chrysanthemum seed sown and treated much as the old-fashioned China Asters used to be; in other words, as half-hardy annuals. The main thing is to get hold of a good strain; hence it is just as well to enquire of the seed merchant if he can really recommend his seed. Single and double, early and late flowering types are obtainable.

The Wild Morello Cherry.—As Mr. E. A. Bunyard pointed out in his article on Cherries (page 481) we should do well to realise the botanical distinctions between sweet and sour Cherries. Some time ago Mr. J. Fraser exhibited at a meeting of the scientific committee of the Royal Horticultural Society a fruiting specimen of Prunus Cerasus, or dwarf Cherry, from a Surrey wood, which he considered to be the origin of the cultivated Morello, because the wild and cultivated trees agreed in their botanical characters. P. Cerasus may be recognised by its dwarf habit (3 feet to 8 feet) in the wild state, its small, leathery, glabrous leaves on a level with the branches (not drooping), and in being green at all stages of growth. The fruit is round, red, with a globular stone, and the acid juice does not stain. He also showed specimens of P. Avium for comparison. It makes a tree 20 feet to 60 feet high, with large, flaccid, drooping leaves, hairy on the veins beneath, and much tinted with red in their early stages. The fruit is heart-shaped, black or red, with a sweet or bitter (not acid) juice that stains the hands. This he considered the origin of many of the Sweet Cherries of gardens.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

TOADS WANTED.

YOUR correspondent "F. W. B., North Devon," on page 454, October 27 issue, appears, under the heading of "Water Snails," to be so troubled with toads as to find them a nuisance. I wish I could partially complain of the same trouble, as I would like to be able to keep down other pests with them, and could do with fifty or more if he could let me have them. I would pay cost of "packing" and carriage if it would not be too much to ask of him.—S. J. HUGHES, 41, *Leyborne Park, Kew Gardens.*

SAP-TRANSFUSION.

READERS of the *Horticultural Advertiser* may remember some notes on this subject about two years ago and the wonderful results said to be obtained by putting grafts of Glou Morceau Pear on Doyenné du Comice. While not accepting all the conclusions claimed, I was much interested in the subject, and having two pretty big bushes of Doyenné du Comice of the same age and equal size growing side by side in my garden, I put half a dozen grafts of Glou Morceau on one of them a year ago last March. Four or five of the grafts took, and this season have made good growth, but, of course, no flower as yet. Recently I gathered three pecks from the grafted tree, exactly double what the other one produced. This result bears out the statements previously made, and seems to show that there is room for further experiment in the same direction. What have our scientific friends to say on the subject?—CHARLES E. PEARSON, *Hill Crest, Lowdham, Notts.*

CULTURE OF NERINES.

NOTICING in the article on Nerines by the Rev. Joseph Jacob in your issue of October 27 a query as to the cultural treatment of Nerines, I may say that I have been a grower of Nerine umbellatum for some years, and I always give the plants a thorough watering some time before the flower-sheaths are due to appear. This ensures me a splendid crop of flowers as well as some nice green foliage at the time of flowering. To prove my statement, I have at the time of writing two pots (my original bulbs, now twelve years old) with nineteen and twenty-two flower-spikes opening, besides several pots of seedlings sown at various times. My treatment of the bulbs at other seasons of the year is the usual one: plenty of water in the growing period, a real good baking in the resting period, and then the soaking before flowering, resulting in a good crop of blooms at the flowering period. Do not overpot, nor very often. I have not potted but once in ten or twelve years.—A. E. M., *Fittleworth, Sussex.*

CRINUMS.

ONE seldom sees these handsome plants growing in the open, and yet at least some of the varieties are practically hardy, even near London. I have a fine clump of Crinum Powellii which has been in a south-east border for the last seven years, and for the last six has never failed to have from three to five heads of bloom. The heads generally have from six to ten buds, but I find it is seldom that they all open. Usually each stem expands about five or six of the beautiful peach blossom coloured Lilies, which are sweetly scented and very showy. Even when not in bloom the bright green foliage, 4 feet to 5 feet long and about 2 inches wide, is very striking, and the plant is well worth growing. Last winter cut the Crinums very badly, all the tops above the ground going black and pulpy; but when the damaged part was cut away to about an inch below the surface, the bulbs were found quite healthy, and bloomed this season, though rather later than usual. I originally had these Crinums in pots, also C. capense and C. c. album; but as they did not flourish, I got discouraged and turned all of them out in an open border. C. capense and the white variety died after two or three years, and never did well here, though at Torquay I have seen some very handsome beds of the latter, which, when grown in masses, gives a very fine effect. But the climate at Torquay is milder than ours near London.—HARRY E. THORN.

APPLE IRISH PEACH.

ALL this autumn I have been going in for reading Apple notes and articles in THE GARDEN and other gardening papers, and I have not come across a single mention of Irish Peach. I would like to know what it has done to be excluded from my friend Mr. Edward Bunyard's *quality* list, for example. Thirty years ago I enjoyed the friendship of a dear old "Apple" man. My earliest introduction to Lane's Prince Albert and Bramley's Seedling was in his garden at Malpas. How well I remember his Irish Peaches in August, plucked from the tree when ripe and straightway devoured; "eaten" is much too mild a word to use. They were *so good*. I have never come across a Gladstone that came up to them. One of my August sorrows is the remembrance of my little tree that was destroyed one year when I had a particularly bad attack of Tulip madness. Why no mention of Irish Peach? Was my palate thirty years ago less fastidious than it is to-day? Is it that distance of time has lent enchantment to my taste? Is it that Irish Peach is a dying variety?

"Oh where, Oh where, is my wee dog gone?
Oh where, Oh where, is he?

—JOSEPH JACOB.

THE HIGH PLANTING OF APPLE TREES.

THOSE who have had to deal with stiff, wet soil in their gardens or orchards have learnt from experience that to bury the trees with a view to only covering the junction between stock and scion, whether budded or grafted, is a harmful proceeding. Especially in deeply trenched soil is this a fault. If trees are planted under favourable conditions, I fail to see why two sets of roots are necessary to ensure success. If canker is sought for in varieties like Cox's Orange Pippin, King of the Pippins and Warner's King, plant deeply and cover the junction. If those who are troubled with canker in trees will lift them entirely, deeply trench the soil underneath, and plant the trees on the surface, mounding so as to cover the roots, they will soon have cleaner trees.—E. M.

OUR NATIVE BLACKBERRIES.

IN reply to "B., Weybridge," on Brambles, I may say that not all of us have gardens with such suitable climate, soil and physical surroundings as Weybridge and Wisley. I grow my plants 650 feet above the level of the sea. I and my neighbours, who employ experienced gardeners, have grown Rubus laciniatus and other American varieties as well as the Loganberry, and have found them utterly useless. R. laciniatus I still have, but it is only kept on account of its prettily cut foliage. I have by me a letter from one of our ablest writers on gardening, and with an experience of years on this subject, in which he says: "I am a believer in our native Blackberries. The American plants are fine at home, not good with us." If the introduced varieties of Brambles give satisfaction, why is it that so many persons, as well as two well-known firms of nurserymen—specialists in fruit trees—write and ask me for as many cuttings of mine as I can spare? The reason I leave the old fruiting canes on the plants during the winter is that I consider they serve as a protection to the new wood against the cold, drying winds and frosts in the early spring. I may say that on October 31 I gathered 5lb. of fruit from a dozen square yards of plants.—J. C. VARTY-SMITH, *Penrith.*

ONION-GROWING AT ALDENHAM.

HAVING seen the vegetables on more than one occasion at Aldenham this year, I am more than ordinarily interested in what Mr. Beckett has to say of one of his Onion plots on page 444 of THE GARDEN. In some notes of mine therein published on July 14 last, after having been privileged to see the vegetables, I wrote "of all the crops . . . the Peas and Onions have left the greatest impression on the mind, the almost entire absence of blanks or failures being alone remarkable." That impression was formed from what I saw in the last days of June. Two months later, when I again saw the plot as depicted in the illustration on page 444, after a closer and more critical inspection I found my early "impression" abundantly confirmed. Indeed, it was well-nigh impossible to conceive anything approaching nearer to perfection. For this very desirable consummation Mr. Beckett's *modus operandi* is unquestionably responsible. This he himself sums up in the following terse passage: "The whole secret of success lies in two things: proper preparation of the ground and the preliminary bringing on of the young seedlings in seed-boxes." Mr. Beckett follows by stating some of the advantages of the system—practical immunity from the attacks of the Onion maggot, the earlier maturing of the bulbs, and obtaining "finer and better-keeping bulbs into the bargain"—matters which cannot but commend themselves to amateur and professional alike.

An item of economic importance arising from box-raised Onions not mentioned by Mr. Beckett is the great saving of seeds; and as Onion seed is already dear and likely to be scarce in the coming season, all interested should make a note of the same and endeavour by this system of box-raised seedlings to make the seeds go as far as possible. In a concluding sentence Mr. Beckett refers to the all-important fact that "once the ground is in good condition, the plot can be used for a number of years for Onions, provided it is well worked each season and the necessary food added." That statement the following circumstance wholeheartedly endorses. Some years ago I was in the chair at a gardeners' mutual improvement meeting at Kingston, when a paper on "Onions" was given. Among other things, its author stated that he was then growing his Onions on the same plot of ground for the fourteenth year in succession, and he had no desire to see a finer crop. And if for fourteen successive years, why not twenty-eight, and so *ad infinitum?*

Mr. Beckett, I note, estimates the weight of the illustrated plot of Onions at "3½ tons, over this weight rather than under." When I last saw it, speculation was rife as to this among some of the workers, and I made a rough calculation myself. In the main the bulbs were nine to a yard, and pitting these sown in drills in the open against Ailsa Craig and Walker's Exhibition, I estimated that over all they would average four to a pound. On this basis the weight of the crop would be 3 tons 15 cwt., or, roughly, a quarter of a ton in excess of Mr. Beckett's estimate.—E. H. JENKINS.

SOME FALLACIES REGARDING THE CLEMATIS.

I HAVE read with some surprise the criticisms by Mr. W. Robinson in your issue of November 3 on my lecture entitled "Some Fallacies Regarding the Clematis," given before the Royal Horticultural Society and printed in the Society's journal of last September. I had hoped that I had explained the different points sufficiently, with the aid of specimens shown, and illustrated in the journal, to have removed any doubt which might exist in the mind of any unbiased person. There is an old saying that "A man convinced against his will, is of the same opinion still." Apparently Mr. Robinson is quite unable to dismiss from his mind his pet aversion to the general practice of propagating plants by budding and grafting. In the present instance he is only too ready to come to the conclusion that therein is to be found the cause of the "die-back" in Clematis, and in vaunting it as a proof of the correctness of his theory entirely disregards the fact that the "die-back" also occurs in seedlings and plants raised from cuttings growing on their own roots and ungrafted, as clearly stated in my lecture and proved by specimens shown.

It apparently did not suit Mr. Robinson to take any notice of the exposure of his fallacy, or of the fact (mentioned in my lecture) that in the letter from M. Morel which Mr. Robinson published in *Gardening Illustrated*—but did not translate—M. Morel, in expressing his opinion on the matter, entirely ruled out grafting from the list of possible causes of the "die-back." Mr. Robinson also disregards the fact (likewise mentioned in my lecture) that Mr. W. C. Glover has been able to identify the parasite which is the cause of the disease to be a fungus belonging to the genus Ascocyta, and has also succeeded in transmitting it from one plant to another by inoculation. His views and experiments entirely bear out the conclusions I had formed as to the nature and development of the disease. In order, however, to throw doubt on the accuracy of my statements, he evades and misrepresents what I said. Where in my lecture can he find that I said "that the scion absorbs or in some way overcomes the root of the wild Clematis on which it is grafted"? What I said was: "Within a few weeks after the plant has been repotted (after grafting) it commences to form 'own roots' . . . the plants after they have formed their scion roots are mainly supported by them and not by the roots of the stock." To this I adhere, and I am supported in this opinion by M. Morel, who says: "When grafted on the roots of C. Viticella, a union is secured which borrows from the stock only temporary aid wherewith the scion forms for itself roots on which it is to live," a very different result to that which Mr. Robinson would like his readers to believe is the case when he says "it is reasonable to expect that the native plant (rootstock) will be the death of the graft in time."

Mr. Robinson may have had experience of Clematises "extending well over a quarter of a century," and so have I, and of a practical nature, too, and possibly have as many thousand plants come under my direct supervision yearly as he has single plants.

I challenge him to prove his statement, which he has not done in his article of November 3, but has only written round the subject and obscured the point at issue. Who has ever heard of anyone having "'put' two sets of roots to a fragile plant" of Clematis? Has not his quarter of a century's experience taught him that the scion is put on one set of roots, and that the scion roots are formed after the union of the scion with the stock?

It is not my intention to continue a lengthy correspondence on this subject, as I have already dealt with it fully in my lecture; but if Mr. Robinson wishes to say anything further, may I ask him to kindly give direct answers to the following points:

If he still maintains that the stock on which the Clematis is grafted causes "the death of the graft in time" and is the reason for the "die-back"

(1) Will he explain why the scion roots generally increase to a greater extent than the roots of the stock?

(2) Why the "die-back" does not affect the plant from the union upwards, instead of from the stem downwards?

(3) Why, in the case of a shoot dying back, those below it continue to thrive (if not afterwards attacked) and strong new shoots are sent up from above the scion roots?

(4) How does he account for plants suffering from "die-back" which have been raised from seed or cuttings?

(5) On what grounds does he contend that C. Viticella is not a suitable and natural stock on which to graft hybrids of that type?

In conclusion, may I express the hope from Mr. Robinson's silence that my lecture has at least cleared his mind of the fallacy he had entertained, and expressed in the public Press, as to the authenticity of the origin of C. Jackmannii, and that the public have now seen the last of the frivolous statement as to it being synonymous with C. hakonensis.—A. G. JACKMAN, *Woking Nurseries, Surrey.*

CLEMATIS OF THE PATENS GROUP GRAFTED ON C. VITALBA, SHOWING "DIE-BACK."

A SEEDLING CLEMATIS ALSO SHOWING "DIE-BACK."

THE CLEMATIS AMONG SHRUBS AND IN OTHER NATURAL WAYS.

IN THE GARDEN for November 3, page 466, Mr. A. G. Jackman wrote:

> "I have for a long time advocated the planting of Clematises in an easterly or westerly aspect, in preference to full south, so that they may escape the full force of the sun during the hottest time of the day. I have also noticed they apparently derive benefit from being planted in close proximity to other plants, where the foliage of the latter acts as a partial shade, more particularly to the stem and roots of the Clematis."

He may be assured that it is a good way, and has been practised here for years. Anyone who comes here on a summer day may see Nellie Moser looking down over his head from a Magnolia. In the nurseries of Europe as I have seen them there is rarely any means of growing the plant in such ways; nor could one fairly expect it. To grow the plant is the work of the owners and their gardeners; and nurserymen's work to grow plants for us that will live hardy. The very artificial means of increasing a climber by grafting should only be followed when there is proof that the natural way fails. The idea that grafting is a more rapid way of increase is not true. Layering and cuttings are simpler and far better. My garden is open to all one day a week, and here the Clematis may be seen in every position, and first of all in the flower garden—its right place.—W. ROBINSON, *Gravetye Manor.*

**** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE GARDEN *is obtainable* ONLY *if ordered beforeha*

THE CULTURE OF FRUIT TREES.—VII

(*Continued from page* 481.)

GOOSEBERRIES: A SELECTION FOR FLAVOUR.

THE Gooseberry is a particularly English fruit and has been one of the favourites of the fruit garden for many centuries. Tusser, who, by the way, always seems to have called upon his wife when the garden required attention, instructs his long-suffering spouse in September:

"The Barberry, Respis and Gooseberry too
Look now to be planted, as other things do;
The Gooseberry, Respis and Roses all three
With Strawberries under them, trimly agree."

Pepys, a townsman by nature, did not altogether disdain country things, and remarks on Gooseberries "as big as Walnuts."

In planting Gooseberries in our gardens we are thus carrying on an old custom, and if I read the signs rightly, this fruit is just being discovered by the amateur, who is fast realising that there are Gooseberries *and* Gooseberries, and is now seeing that he gets the latter.

It is certainly an easy matter in many gardens to prolong the season of this fruit and to improve its quality, and as it is a long-suffering plant, few indeed are the gardens where it cannot be grown. We do not wish to emulate the Midland growers with their elaborate attempts to produce the biggest berry of the season, but we can at least choose the best flavoured of the race.

The Gooseberry is essentially a plant of Northern climates, and dreads the summer heats. In the centre of France a healthy Gooseberry is, to my experience, a rarity, the rude vigour of meridional sun proving too much for it. And so in dry soils the first thing to consider is the provision of sufficient water in the soil by an abundance of organic matter. Gooseberries will also support considerable shade, and while they will "do" under trees, they will do more in the open and, incidentally, be less liable to American mildew with its attendant sheaves of official forms and notifications. Let us therefore give them a place in the sun wherever possible.

The Gooseberry bush of most gardens forms an excellent protection against marauding hands, and if half of the branches were cut away it would be better for all parties concerned. Perhaps it should be ordained that the gatherer of the fruit should always be set to prune in winter; he would then ensure that the fruit in the tree could be gathered without undue laceration. Failing this, there is a thornless Gooseberry—but this is, I think, not playing quite fair with Nature.

However, let our bushes be even as our bush Apples, a cup of radiating cordons, and all will be well. The single and double upright cordons provide a neat and pretty way of growing well-ripened fruit, and they are very easy to prune and keep in shape. Trained on a wire trellis diagonally, 18 inches apart, a large selection can be obtained in small compass. In choosing a selected list it is not necessary in this case to distinguish utility and quality; happily, many of the best flavoured are excellent croppers and also many of the largest fruits are quite equal to the smaller ones, thus providing a somewhat striking exception to most of our fruits. (I hope this will catch the eye of "Anne Amateur"!) My selection for flavour would be:

GOOSEBERRY LANCER "AS BIG AS WALNUTS."

Yellow Rough.—This is often called, though wrongly, Yellow Ball; it is the first of the yellows; medium size.

Rough Red.—A small round fruit of very distinct flavour.

Rosebery.—A deep sea green, very sweet and quite first class.

Glenton Green.—Small, hairy, very rich in flavour.

Langley Gage.—Pale yellow green, transparent, and perhaps the best of all for flavour. Cheshire Lass is hardly distinguishable; perhaps a little less sweet.

Whitesmith.—Pale whitish yellow, very sweet and—as adjectives are getting a bit exhausted—I will say equal to the best.

Lancer.—A large dull green fruit, late and very good.

Cousens' Seedling (Sandwich Yellow).—Brings up the rear with credit. A beautiful clear golden yellow; flavour as before or nearly so.

This list will give anyone a taste of the best at all seasons, but it may be supplemented by a choice of general utility—that is, earliness for green fruit, good size and flavour when ripe. For this purpose Whinham's Industry and Whitesmith are unexcelled. The combination of large size and good flavour will be found in Ringer, High Sheriff, White Eagle (extra extra), Leveller and Ocean.

The largest fruit to ripen for early dessert is Careless, now fast becoming a "market" variety.

For bottling green, Crown Bob, May Duke, Keepsake, Leveller and Whinham's are all good, but it is most important for this purpose to take the fruit before it has fully grown, or a wood-pulp texture will result. Elaborate experiments on the Continent have shown that half-grown fruit is best for bottling, and my own experience confirms this.

The Gooseberry always seems to me the special fruit of youth (fear not, O! reader, I will not include the obvious quip!), and I think I have remarked before that the garden offers no better welcome to the children home for the summer holidays. My own memory, a long one, is very definite on the point that the home supply was never equal to the demand. Let the parents of this generation see to it and make themselves secure from any such reproach in the evening of their days.

E. A. BUNYARD.

JERUSALEM ARTICHOKES

THIS crop may be lifted as required, but where necessary the tubers may be stored. A dry day should, if possible, be chosen for the work, and the entire crop be lifted and spread out on the surface soil for a short time. All very small or ill-formed specimens should be discarded, and the rest collected and stored in damp sand in a dark shed. It is quite a simple matter to save seed of these, and this is best done as soon as the crop has been dug. Many people believe that all extra large tubers are most suitable to be kept as seed, but this is quite a mistake. Before storing the crop, go over it, choose the tubers that are of medium size and of good shape, and store these in ashes for seed. Then all the others can be handed over in instalments to the cook. So far as my experience goes, it is better to keep the seed tubers in damp ashes till the day on which they are to be planted. Seed obtained from a distance (so necessary in the case of Potatoes) is quite unessential, for we get huge crops here every season from home-saved seed. The

Jerusalem Artichoke, though such an easily grown vegetable, is also one of the most nutritious, and we grow large quantities of it each season. It will grow in nearly every soil, provided it has a sunny position.

Weetwood, Ecclesall, Sheffield. E. T. ELLIS.

GROWING PRIZE POTATOES:

IS IT WORTH WHILE?

BY CLARENCE PONTING.

THE paragraph relating to a Potato competition held by the Dumfries and District Horticultural Society for the heaviest crop of Potatoes grown on an allotment in a row of 5 yards ("Notes of the Week," page 441, October 20) was extremely interesting to me, owing to the fact that I grew a row of exactly the same length this season with the same object in view. I wished to see what weight it was possible to produce from sixteen uncut tubers of an early variety, Sir John Llewelyn.

Now, it is a well-known fact that in order to produce the greatest weight possible from a given number of Potato "sets," two things are necessary. One is plenty of room; the other, good light soil which has been well treated in the way of fertilisers or manure.

The first can always be obtained. It simply means that nothing must be grown nearer the row than 3 feet on either side. The second is not so easy, unless one possesses a suitable soil. My land is a heavy clay—not exactly suitable for growing Potatoes. I therefore expended the sum of 6d. with the roadman, who deposited three barrow-loads of flinty road scrapings (which had been stacked for a year) outside my domain. These were wheeled on to the site I had selected for this experimental row. Early in March this sandy soil was well mixed with the clay, and had the effect of making the land much lighter.

The third week in March a drill 4 inches deep and 6 inches wide was drawn along this prepared site. Along the bottom of this drill was spread a liberal dressing of Beech leaf-mould, with which had been mixed a pound of a complete fertiliser, costing, say, 3d., to the barrow-load of leaf-mould. On this the Potatoes (which had been previously sprouted and disbudded to one shoot to the "set") were laid, each a foot apart. The drill was then filled with the fertilised leaf-mould, and a slight scattering of road sand placed along the top to prevent it from being blown away as it dried.

Nothing further was done until the shoots were high enough to allow of earthing up. This was done by drawing the soil of the prepared site to the stems until the tubers were covered a depth of a foot. Stakes were then placed at each end of the row and two in the middle, stout strings being run along the row at distances of 6 inches, and a foot from the soil. This was to keep the haulms erect—a small thing in itself, but one which considerably assists towards weight production.

The normal height of the haulm of Sir John Llewelyn Potatoes is somewhere about a foot to 18 inches. Under the treatment which I gave them the haulms reached 4 feet, with a basal circumference of stem of an inch. The splendid top growth was probably due to the after-treatment which the plants received. During the dry spell in the early summer a gallon of water was poured into the heart of each plant. The water vanished at once, and gallons would have disappeared in the same way had I given it to the plants. However the tubers appreciated the water, which was followed by another gallon of liquid manure composed of sulphate of ammonia 1oz., and complete fertiliser 3oz., to each gallon of water. Probable cost, 2d. each plant, or 2s. 8d. for the complete row. This was done twice during the summer, and the result was seen in the tree-like growth of the haulms. The yield from this row, which was dug on August 15, when growth was completed and the haulms commencing to take on that brown tint which denotes the ripening of the tubers, was highly satisfactory when one considers that the variety was a first-early one. The total yield from the row of sixteen tubers, weighing 2lb., was exactly 51lb., or equivalent to 3⅛lb. per root. The probable cost of production, not including labour, was somewhere near 6s.

At the time I was inclined to think I had produced an excellent yield. From the results of the Dumfries competition I am, however, not quite so satisfied at the present moment, for I notice that the first-prize winner lifted 6olb., or 9lb. more than my crop. Possibly this is accounted for by the variety, which is not mentioned, and was probably a maincrop. The second-prize winner did not equal my yield by 7½lb., so that, after all, my crop was a moderately good one. I might perhaps add that nothing was grown near this row of Potatoes, 3 feet being allowed on each side of the row.

I now come to the point of all this talk. Does it pay? Consider the cost of ground preparation and fertiliser, to say nothing of the amount of ground necessary to produce the crop, roughly 7 feet by 15 feet, and I say "No!"

Five rows of the same "sets" planted 2 feet apart in the ordinary way without special cultivation resulted in a yield of 25lb. to the row. The ground monopolised by the *special row* gave equivalent to *two of these rows*, and cost 6s. to obtain. On the other hand, all the special row tubers were large, handsome samples; while those from the ordinary rows were smaller, although of perfectly usable size. No; prize Potatoes cannot be said to pay when not grown for competition.

A Cottager's Crop of Onions

THE enclosed photograph is that of a bed of Onions grown by Mr. J. Lester of this town. The bed measured 21 feet by 17 feet, and the Onions when ready for storing weighed 3cwt. 36lb. The variety is Ailsa Craig, and the seed was sown the last week in March in drills 10 inches apart. Mr. Lester, who is a bricklayer by trade, is a very capable gardener, and believes in cultivating his ground well. The soil is a sandy loam, and besides "putting something into it," to use the grower's words, he also made frequent use of the Dutch hoe.

Bridgnorth. S. E. D. TURNER.

Brussels Sprout Dwarf Gem

THANKS to the heavy autumnal rains, winter greens of all sorts have made exceptionally strong growth, but the appearance of many batches of the popular Brussels Sprout leaves very much to be desired, this being especially noticeable where the plants are growing on newly broken up soil and less than the ordinary amount of room allowed between the plants. I have lately made an inspection of several of these new allotments, and find in the majority of cases that really good, firm Sprouts will be very few, the reason for this being that, in their owners' desire to increase the food production of the land, the plants were planted without due allowance being made for the variety or manner of growth.

As a set-off to this I came across one of the finest batches of Brussels Sprouts I have yet seen, and was not surprised to hear from the owner of the land that it was my old and well-tried friend Sutton's Dwarf Gem, which in my opinion is an ideal variety for those who have only a small plot to fill; it may safely be planted at 2 feet apart each way. Even though the size of the "buttons" may lack something when compared with others of the "giant" class, the fact that they remain beautifully firm over a very long period makes them more acceptable at many tables than others which, if not soon picked, are more suggestive of Coleworts than Brussels Sprouts.

F. R. C.

AILSA CRAG ONIONS GROWN BY A COTTAGER.

THE DROP-SCENE

A GOSSIP ABOUT A NEW GARDEN AND THE COUNTRY SURROUNDING IT.

By ARTHUR R. GOODWIN.

A SOFT south-west wind is blowing up the Severn—making vagrant melodies among the branches, and whispering like a passionate lover among the russety-orange leaves of the Oak trees which go to make up my little wood. The pale winter sunshine filters through the leaves on to the autumn-tinted Bracken beneath, and counter-changes the mirrored surface of the sober-hued pool in the hollow with little plots of gold and black. Above the path, which is circumjacent to the pool, the ground rises abruptly into a sheer cliff of soft, red rock—the home of myriads of little Ferns and mist-bespangled Mosses that shine like emeralds in this passing gleam of wintry sunshine. The steep cliff terminates in a level tableland that lies well-nigh 300 feet above sea-level, and here—though I possess neither Aladdin's lamp nor Fortunatus' purse—some day I hope to build my "castle." There was a heavy shower this morning, but now the air is clear and a few clouds only fleck the limpid sky. On all sides there are *beaux points de vue*. South-westwards the dark brow of Malvern's lonely height—Nature's vastest monument in these parts—rears itself aloft. More westerly lies the lovely Valley of the Severn, but the river is hid from our eyes by the high cliffs of its rocky channel and the trees that clothe them.

One of these cliffs, a buttressed pillar of solid red sandstone, known as Blackstone Rock, stands out boldly athwart the river as if to challenge its passage. But, though the water has been forced to turn aside by this intruder, it has cleverly hollowed out the rock beneath, making it a perilous spot for bathers, for the undercurrent flows swiftly and is full of whirlpools and eddies. But disciples of Izaak Walton love the deep waters, for here

"Men catch big fish, but judging from what they say,
Those always are the biggest of fish that swim away!"

Across the river and still nearer to the west, Woodbury Hill and the Abberley Hills lie in the distance—both pygmies by the side of Malvern, but of interest because they are the dividing watershed between the valleys of the Severn and the swiftly flowing Teme. On this side of the river the banks are thickly wooded, for here are Bewdley Forest and, more to the west, the great Forest of Wyre stretching for miles across the upland country. Almost all the trees are Oaks, and remind me of the old story of how a knight of ancient days, who had done the King some great service, was rewarded by a broad tract of land which he was to hold for *three* crops. He sowed acorns, and thus secured for himself and for his descendants a tenure of almost 3,000 years, at least, according to Dryden:

"The monarch Oak, the patriarch of trees,
Shoots, rising up, and spreads by slow degrees;
Three centuries he grows, and three he stays
Supreme in state, and in three more decays."

IN THE GARDEN AT WINTERDYNE, BEWDLEY.

The Rose-embowered steps leading down to the River Severn.

Almost due west from where we are looking you will see smoke issuing from a hollow, as if it were from the very bed of the river. It marks where the old town of Bewdley lies huddled together beside the river banks—a town that still boasts a mayor and corporation, but that has otherwise lost the pristine magnificence of those days when it returned two members to Parliament. It is an interesting place, full of old-world tales and ancient memories. Here, at Winterdyne, on the opposite side of the river to where we stand, Frances Ridley Havergal spent some of the happiest days of her precious and all too brief life; and here were written some of her most exquisite sonnets and hymns. It was on the occasion when her brother-in-law and sister, Mr. and Mrs. Giles Shaw, left Celbridge Lodge, County Kildare, for their English home at Winterdyne that she wrote:

"Where Ivy green on the red rock grows,
And silvery Severn swiftly flows,
With an extra sparkle and glitter and shine
Under the woods of Winterdyne."

The garden is an old-world pleasaunce such as would delight the soul of Mr. Engleheart, where Nature lavishes her charms and the air is full of sweet memories for pensive minds. It is laid out on the sloping hillside above the Severn, and the picture shows the Rose-embowered steps leading down to the water. Behind the ancient borough of Bewdley the hills rise almost precipitously, and the road winds and twists uphill for many miles. Bewdley itself is but 75 feet above sea-level, while Clows Top, the highest point of the road before it begins to descend into the enchanting Valley of the Teme, is 700 feet above sea-level. More years ago now than I care to remember (*eheu fugaces, labuntur anni!*) Mr. A. H. Pearson and myself took our bicycles and explored this wild upland country. We spent a delightful day at Far Forest Vicarage, whose incumbent at that time was Mr. G. F. Eyre, a keen gardener and delightful host; and I have a vivid recollection of how amused my companion was when in the evening, after looking round a small-holder's orchard, on preparing to go its owner bade us in true Worcestershire fashion, "Good-night *each*"!

Another day we took the same acclivitous road, but this time we climbed the steep hill to Clows Top and on through the little village of Mamble that leads down to the fertile pastures of the Teme. It is a quaint spot, perched right upon the hillside, with little half-timbered houses and an ancient stone church in the Early English style with a western turret of wood and a spire. The register dates from the year 1586, and in the church there is a brass to John Blount, Esq. (*circa* 1510), and to his wife. His descendant, Sir Walter Aston Blount, is the present Lord of the Manor.

At the "Cross House," the village shop, you can obtain the best of eggs and butter, and (I only whisper this to you, gentle reader) if you are a friend of the good lady who keeps it, a sip of Damson wine! And the bread! Even now it is good; but before the dire effects of the "G.R." became evident it was made of the very best superfine flour (stored in a delightfully carved old Oak bin) and baked in an old-fashioned side-flue oven heated with wood, so its delicious flavour may well be left to your imagination. Let nothing, therefore, deter you from visiting Mamble some day when you chance to be in the neighbourhood; and do not let yourself be persuaded by Mr. John

Drinkwater's pleasant verses in "Swords and Ploughshares" to "take another road":

"MAMBLE.

"I never went to Mamble
That lies above the Teme,
So I wonder who's in Mamble,
And whether people seem
Who breed and brew along there
As lazy as the name,
And whether any song there
Sets alehouse wits aflame.

"The finger-post says Mamble,
And that is all I know
Of the narrow road to Mamble,
And should I turn and go
To that place of lazy token
That lies above the Teme,
There might be a Mamble broken
That was lissom in a dream.

"So leave the road to Mamble
And take another road
To as good a place as Mamble
Be it lazy as a toad;
Who travels Worcester county
Takes any place that comes
When April tosses bounty
To the Cherries and the Plums."

But let us return to our coign of vantage. That tall, frowning hill in the far west that you can just see above my Oaks is Titterstone—one of the Clee Hills—which forms a sublime barrier between here and the romantic town of Ludlow. It is of volcanic origin, and out of its purple brain comes that wonderfully hard basalt or dhu-stone which is being used "somewhere in France" for purposes too obvious to need explanation. To the north-west lies its sister Brown Clee, which is also contributing its quota of assistance towards that great victory which will proclaim the triumph of *Freedom*.

From the pool below comes a pleasant water-noise made by two little streams that bubble up out of the madder red rock into two fish-tanks (*piscina* was the Roman name) on either side of it.

All of the books on water gardening that my library contains are silent on the subject of fish, so, pending information, they are without occupants. On a recent visit to Blackpool Aquarium, the fish I took most pleasure in was the golden orfe, and I wrote at once to Messrs. Cross of Otterspool Gardens, Liverpool, to enquire for some; but alas! they could only offer me roach, dace and young pike, so I shall have to content myself with the first two for the tanks and some perch from another source for the pool. I should have liked some lusty trout, but, though the pool has a sandstone bottom and a nice rivulet of pure water, I decided against them after hearing what a gentleman who lives in this neighbourhood, and has had much experience in pisciculture, had to say on the question. "If there is gravel on the sandstone and some water-weeds would grow," he wrote, "I should put in trout, but they must have shelter. If the flow of water is scanty, Rainbow; if good, Loch Levens. Rainbow, if well fed, will grow from 4 inches long to 2½lb. in eighteen months. But they don't last more than three years, and then you should restock. If the water is not suitable for trout, then I should put in perch, which are not so particular."

At Blackpool they told me that among the yearling trout there was great mortality, but that the two year olds succeeded very well. Certainly they had a large number of beautiful trout there, and they appeared to be on excellent terms with the golden orfe whose tank they shared. These trout had not travelled far, as they were reared at the Wyresdale Fishery Company, Scorton, Lancaster. Some day I hope my fish will know me like those fishes in a lake at Baiæ in Campania consecrated to Domitian, of which Martial tells us they knew their master:

"Sacris piscibus hæ natantur undæ,
Qui norunt dominum, manumque lambunt;
et ad magistri
Vocem quisque sui venit citatus."

It is to be hoped, however, that the same fate will not befal them as befel those of a lady who has a garden between Bewdley Railway Station and the Severn. One day an otter found its way to her pool and wrought much destruction among the fish, but being disturbed, it made good its escape and, in attempting to cross the railway, was killed by a train that was coming into the station.

. . . . . .

The orange sunset is waning low among a mass of clouds over the Clee Hills, flushing the sky with daffodil and amber, and here and there making "windows of agate" like those in the Lesson for St. Andrew's Day; the air grows chill, and I must not keep you gossiping any longer about my new garden or the rich panorama which surrounds it.

Like a drop-scene that falls and hides a brilliantly lighted stage, so the clouds across the west have grown dark and the sky-glow pales and faints to nothingness. Is it pure fancy, or do my eyes (like those of Coventry Patmore) make pictures when they shut? For with the falling of the darkness comes a vision of the *peace that is to be*, and in the words of the poet:

"Methinks I see again
Those gentle days renew'd that bless'd our isle,
Ere by this fury of division,
Worse than our Etna's most destructive fires,
It desolated sunk. I see our plains,
Unbounded, waving with the gifts of harvest,
Our seas with commerce throng'd, our busy ports
With cheerful toil."

Self-sown Seedlings on a Retaining Wall

THE accompanying photograph shows some self-sown seedlings of Sedum brevipes major. These seedlings are of this year's growth, and are on the upper portion of a small retaining wall facing south-west. This retaining wall is just a rough construction of red sandstone that I built in the autumn of 1915. The following spring all the plants flowered very well, considering they were of small size and so recently planted; and by the autumn of the same year (1916) they had developed into good-sized clumps and gave great promise for their future well-being. But the severe weather of the past winter worked dreadful havoc, the plants on this portion of the wall suffering very badly, especially Mossy Saxifrages, of which I lost about one hundred plants. These Saxifrages were grown from seed sown in the spring of 1914.

The original plants of Sedum brevipes major occupied a portion of the wall at the right side of the illustration, and were almost completely "wiped out." On looking over this retaining wall in the spring of the present year, I was just about to remove the dead plants of this Sedum when I noticed a few tiny bright green specks, and thinking, if they were left undisturbed, more would perhaps make their appearance, I left them alone to see what would happen, with the result that I have now a very fine healthy crop of self-sown seedlings covering a space of about 2 feet, and a smaller clump, as shown in the illustration.

SELF-SOWN SEEDLINGS OF SEDUM BREVIPES-MAJOR AND S. SPECTABILE.

Sedum brevipes major is a very bright and happy looking plant, in colour a beautiful glaucous green. Its habit is of the carpeting nature, and quickly forms a beautiful foil for bulbs, &c. When commencing to flower it develops into a very beautiful plant of extended growth, creeping well into the Iris at the back. Its flowers are star-shaped and of a delicate pinkish white. The plant will grow in any light sandy soil and in almost any position, but prefers plenty of sun, like the majority of this family. It is one of those plants that should be left to seed, and if the old growths are not cut away till the autumn, some pleasant surprises in the way of accidental combinations may be expected.

Towards the left-hand side of the illustration will be noticed two tiny self-sown seedlings of Sedum spectabile. These made their appearance among the original clump of Sedum brevipes major, and flowered for the first time this September.

It will scarcely be necessary to remind the readers of THE GARDEN that Sedum spectabile is one of the most handsome of the Stonecrops and one of the latest to flower, "and its great flat rosy corymbs are irresistible to that splendid autumn butterfly, the Red Admiral. . . . Well, this morning I have been watching a number of these robust insects on the large Stonecrop—so busy as to allow me to use a lens on them. There were no less than sixteen Admirals at work on one group of spectabile Stonecrop. . . . Let anyone who desires to possess Sedum spectabile be careful to get the bright-coloured variety. All are equally hardy, grow like Chickweed, and are easily and quickly propagated by cuttings or 'pinchings'; but there are some worthless, dull-coloured varieties which should be avoided."

The above is a portion of an extract from the first series of "Memories of the Months," by Sir Herbert Maxwell. I do not remember seeing these Memories referred to in THE GARDEN during the many years I have been a reader of the journal. I find there is scarcely a subject that is of a Nature-study on which one desires information (even if it should be of so remote a topic as midges to golden eagles, or, again, Snowdrops or Pines) but what may be found in these Memories. They are books that can be taken up at all seasons, and prove a great solace during these terrible times we are all passing through.

J. P. CHESHIRE.

Gardening of the Week

FOR NORTHERN GARDENS.

The Kitchen Garden.

Seakale.—If wanted for Christmas, enough of the strongest two year old heads should be lifted at once. I find they come on very rapidly if arranged and set in leaf-soil in the bottom of a box of suitable dimensions which is covered with a lid and further darkened with sacks or other material. An occasional moistening with pure water is needed, and the box stood on the warmest spot in a stove. If put on the floor pipes, something should be placed between these and the box to mitigate the heat. Once the foliage decays, the whole of the plants should be lifted, assorted, the roots broken off, and then be stored in a pit or clamp for use as required. If the roots are cut into 6-inch or 7-inch lengths at once, and also covered up in a pit, they will start sooner into growth than if the preparation is left till spring. Even very thin roots are useful if strong ones are not obtainable.

Rhubarb.—It is usual to let the roots for forcing lie for a time above ground previous to introducing them into the forcing-house. A low temperature, as opposed to a high one for Seakale, at this time of year is essential to success. The roots do well without the addition of any soil, so long as large roots are chosen, only they must be kept moist to induce the production of stalks and leaves.

Tomatoes.—Those in pots, either for spring fruiting or coming on for use earlier, must be very carefully watered. The Tomato is remarkable in not only keeping alive, but making growth in very dry soil, a fact that growers of experience know very well. To apply water at present as one would for most plants in vigorous growth is, therefore, not at all good for the future prospects of the early crop. Excessive forcing must also be guarded against.

Cauliflowers.—Should there be a glut of these and of early Broccoli, it is well to know that they can be kept for some time in cold weather by lifting the plants and hanging them head downwards where they will never be subjected to changes of temperature. Cold, if without frost, is ideal for preservation.

Rosette Coleworts.—There should be abundance of these delicious mock Cabbages, which, though not quite hardy, are all the nicer eating for experiencing a slight frost. It saves much after-labour and consequent eyesore to clear away the whole of the plants when gathered. Twist the stems round when pulling up the plants, and little or no disturbance of the surface will result.

Plants Under Glass.

Cyclamens.—Young plants will now be throwing flowers, and if the plants have not been vaporised regularly, the flowers will almost certainly be spoilt by thrips. Vaporising should be done without delay, but dusting with Tobacco powder is a rough-and-ready substitute. Much care is needed in the application of water, the plants requiring a fair amount; but, at the same time, to flood the corms may involve the damping of the younger flower-stems. Therefore, when watering see that this does not happen, but go over each plant two or three times, giving a small quantity of water at each time, so that none ever reaches the stems. Old plants are always later in flowering, but should be treated similarly.

Zonal Pelargoniums.—These are now in full bloom, and if kept in a dry atmosphere and not overwatered, the trusses will last in good condition for many weeks. They appreciate a breezy atmosphere, but the air should be admitted as far away as can be managed from the plants, and on wet days, if fire-heat is not at present used, no air should be given. Infrequent applications of superphosphate of lime keeps the foliage dark green and the colours of the flowers bright and clear. At the same time, care must be exercised in the application of artificial manures; rather apply weak manure-water when the ingredients are not known.

Cypripedium insigne.—This useful Orchid is now in flower or rapidly coming on. I grow a number of large plants under the shade of Grape Vines, and at this time of year they are frequently subjected to very low temperatures, but without any harm resulting; only a very little water is needed. Being in large pots and therefore rooting in a liberal medium, the loss of moisture is inconsiderable all the winter through. The wonderful thing about these is the long time the blooms last when cut—never less than six weeks if the slippers are young and fresh. Ophiopogon japonicum provides foliage which suits the flowers perfectly.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Trenching.—So much advantage is gained in the future crops by this work that I offer no apology for making so quick a reference to the subject, especially when I consider the number of fresh readers THE GARDEN has from time to time. The amateur, too, with little experience is apt to forget the necessity of the operation. Where new land was broken up in a hurry, perhaps, last spring to get in a crop, this might not have been properly prepared. Now is the time, as fast as the crops come off, such as Potatoes, roots and Cabbage, to thoroughly trench such vacant plots not less than 2 feet deep; 1 foot more would be all the better. Where the subsoil is clay or a near approach to it, leave all such at the bottom of the trench, to avoid difficulties of getting in the crops on the surface next spring. All the refuse, such as leaves, grass, roadside grit and long strawy manure, should be placed in the various trenches as the work proceeds. All such material lightens the soil and enriches it for future crops. Leave the surface as rough as possible for the frost to disintegrate the lumps and thus produce a fine tilth in spring.

Jerusalem Artichokes.—Although it is not necessary to lift the roots until needed, if the space is required for another crop they can be dug up and stored like Potatoes in a heap where they will be free from frost, saving the smaller roots for future planting. It matters not how small they are; they are sure to grow and give good results.

Asparagus.—The tops are now ripe and should be cut over to within an inch of the soil. Clear off all weeds, lightly fork over the surface, and give a covering of half-decayed manure 2 inches thick. For the sake of appearance and to prevent birds scratching off the manure, put over it a thin covering of soil from the alleys between the beds, making all neat and tidy for the winter.

Potatoes.—When the weather is unsuitable for outside work, turn over the Potato heaps, pick out the seed tubers (those weighing from 1oz. to 2oz. are suitable) and set them up on end in boxes to sprout; this will save future trouble. This method of preparing seed Potatoes has much to recommend it; they start into growth quicker, are always stronger in the haulm, and give superior results in every way.

Cabbage.—Lose no opportunity of stirring the soil among the plants when the weather is dry, as I find slugs are very troublesome, and this is the best method of checking these pests. At the same time it encourages growth.

Swedes have grown remarkably well this season, the showery weather having just suited these roots. Swedes continue to grow until Christmas; therefore those in the garden that are large enough for use should be pulled to prevent them growing too large. Stack the roots in a heap and cover with straw and soil. They will keep quite fresh until April.

The Hardy Fruit Garden.

Pruning Apple Trees.—No time need be lost in pruning the trees, even though the leaves are still on, as they are in the case of Bramley's Seedling. Standard trees of thirty years old are all the better for close spur pruning. Even in trees of this type the branches should be treated on the cordon principle, radiating right away from the centre of the tree. Cut back to an eye of their base the current season's shoots that are not required to fill gaps. The leading shoots on standard trees should simply have the tip taken off, if such trees have not filled the allotted space. In the case of bushes that have not room for extension, cut back the leaders also to an eye. Any vacant places should be filled by the retention of this season's shoots. In all cases remove the tip, and in others, where the shoots are, say, 2 feet long, cut away 9 inches or more, but not too low, as this close pruning excites vigorous trees to make more growth instead of fruit-buds.

Pruning Peaches on Walls.—Cut away all surplus growth in the shape of gross foreright shoots. Remove also the small spindly growths, which can never produce good fruit. Bear in mind when pruning that the leaves of one branch should not overlap those of its neighbour.

Plants Under Glass.

Using a Cucumber-Bed.—Where an opportunity exists, say, a Cucumber or Melon bed in a span-roofed house which is not occupied during the winter by Tomato plants, such may be profitably used for East Lothian Stocks raised from seed sown in June, and the spaces filled in with Paper-white Narcissi. White flowers of this character are much appreciated during the winter.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

COMMENTS ON "THE GARDEN"

I HAVE been treated to some "beastly days" for the past few weeks, because through some cause or another—possibly air raids—I have not received my copy of THE GARDEN on the Thursday. It is usually Saturday before I am able to devour its contents; in one case, through wrong delivery, it was three weeks before I was able to satisfy my craving. Fancy having to wait for even two days! This week it arrived only one day late!

However, I have not rested until I read every line. What a lovely collection of articles upon that glorious flower the Rose! Truly the printed words bring back to memory the glory of summer. One can almost smell the Roses described by "White Lady." Unfortunately, through lack of space, I cannot grow all the Roses which I desire, so have to be content with some hundred and fifty of the best. I do not think that the newer Hybrid Teas of a red shade are equal to the old Hybrid Perpetuals, unless, perhaps, Avoca is excepted. Until I saw this Rose I was of the opinion that for scent, colour and vigour it was impossible to equal Hugh Dickson; whereas Avoca not only has all the foregoing virtues, but it is a better bloom.

"Dorothy Perkins: The Southern Bay of the Pergola at Mounton House."—This lovely picture appealed to me from the photographic point of view. The photographer is not named, but I can appreciate the difficulties under which he must have worked. To have produced so exquisitely graded a print *in sunshine* as the one reproduced required an expert to accomplish such a result.

The article upon "Autumn-flowering Wichuraianas" (a horrid word) raises an interesting point relative to the autumn flowering of Dorothy Perkins. The writer suggests that possibly those which do bloom a second time are a sport from Dorothy. The idea is novel, but in my case does not hold good. I have a weeper I budded on to the Briar stock which in previous years has given a second show of bloom almost equal to the first. This year, however, it did not make a single bloom in the autumn. It seemed to expend its energy in making new wood.

R. P. Brotherston's note upon the pruning of Apple trees while the leaves are still upon them is, to my mind, a capital hint. Peculiarly enough, the idea occurred to me this season, and in the middle of October I set to work and did all the pruning that is usually left until winter. It is wonderful how easy the pruning of an Apple tree or bush becomes when the leaves are still *in situ*.

One can see as the work proceeds how the leaves and shoots which are removed allow the light to enter into the centre of the tree in a manner impossible if this work is left until after the fall of the leaf. In effect, it gives one the appearance of the tree as it will start into growth in the spring.

Another interesting point relative to Apples is this: Why is it that some trees cast their leaves earlier than others? It is not a question of early fruiting, for I have all the leaves gone from my Peasgood's Nonsuch, while an early green cooker has not dropped a single leaf. They all start into growth at the same time in spring.

Great Missenden. CLARENCE PONTING.

INTENSIVE HONEY PRODUCTION

ONE HUNDRED AND SIXTY-SIX POUNDS OF EXTRACTED HONEY AND ONE CRATE OF TWENTY-ONE POUND SECTIONS FROM ONE STOCK OF BEES.

HAVING noticed from time to time notes and queries on bees in THE GARDEN, I thought the accompanying photograph of a stock of bees which produced the above quantity of honey, together with a brief account of the methods employed, would be of interest to a good many amateur bee-keepers among readers. This particular hive belongs to a neighbouring farmer, and he frankly admits that the piece of ground upon which it stands has given him less trouble and proved more remunerative than any other on the whole of his farm. Fortunately, he is able to secure the services of a local bee-keeper, Mr. Hawkins, who lives near by and has a large apiary of his own, which he works in his spare time principally upon the same lines as those of the hive illustrated, having an excellent market for extracted honey. I have often heard it remarked that people whose work brings them in contact with horses cannot manipulate bees, owing to the bees' sense of smell and savage dislike; but evidently in his case it is an exception to the rule, for he can, and does, handle various stocks of bees at almost every hour of the day, without veil or gloves, in the calmest possible manner.

As previously mentioned, he invariably works for run or extracted honey, and as a rule uses for the purpose standard bar frames, though he also uses some shallow bar frames, but his reasons for his preference for the former will be seen later on. He is an advocate of brood-spreading in the spring of the year, but this, like all other manipulations, must not be carried out too soon, otherwise more harm than good will result. Towards the end of May or in the early part of June, according to the season, when the brood chamber is getting crowded and the brood is found on almost every bar, and when the bees would soon swarm, he commences to extend operations for them by taking a crate of ten standard bar frames, and, for preference, those possessing drawn-out comb left over from the previous season, which he stands on a lift beside the hive. From the brood chamber he takes four or five bars of sealed brood, one at a time, shaking the bees off each one back into the hive again, and in the place of those removed he puts the same number of bars fitted with full sheets of wired foundation or, as before mentioned,

HONEY!

drawn-out combs for preference. Then on top of the brood chamber he places a sheet of excluder zinc and fits crate number two on top containing the four or five bars of sealed brood and the remaining bars, and makes it as draught-proof as possible by the use of small strips of calico or similar material. The object of shaking off the bees is to make certain that the queen bee is left below in the brood chamber, where she can carry on her mission of egg production in the newly placed combs.

About a week after extending the hive in the manner described, the four or five bars of sealed brood raised from the brood chamber must be examined for queen cells, and these must be destroyed. It is most likely that the bees will form one or more when they find they are isolated and queenless. The hatching bees above and below will, in the former instance, provide further cells for the storing of honey, and, in the latter, for raising brood, &c. When the top crate is crowded with bees and if bars of brood foundation only were used, when the back frame is well drawn out a further crate is put on underneath the last and more frames of brood are lifted from the brood chamber. The same thing is carried out as described above and the frames of brood examined again after four or five days for queen cells, which is very important; otherwise the old queen in the brood chamber will leave with a swarm, and the whole idea is to prevent that and give her every facility for strengthening the stock of worker bees by keeping open the brood chamber and tiering up the hive accordingly.

Such is a brief description of the way in which the hive shown was built up from the original ten bars, and this may be an incentive and open up ideas for those bee-keepers who may not know the method for producing honey on an extensive scale and are not afraid to open up the bees, examine and work them on favourable occasions, handling them firmly and gently when properly subdued.

Queenstown. E. B.

[The method described is not new, and in a favourable season, as the above article states, the results are exceedingly good. But such a harvest as 187lb. from a single colony is exceptional. It would be interesting to know what is Mr. Hawkins' *average* take per colony, say for the last three years, under this system of working. The method of working is perhaps more suitable for the experienced bee-keeper than for the novice. So much depends upon weather conditions and other details not mentioned. There are many modifications of the above system; other methods have in a favourable season produced equally good results, but not often. The bees referred to must be of a particularly good tempered strain and the queen exceptionally prolific. It would be interesting to hear whether they are English, Italian or hybrids. The majority of bees that I have come across appear to dislike the smell of a horse, but the scent from a perspiring human being seems to irritate them likewise.—L. B.-W.]

Pea Masterpiece

THIS new-comer from Clibrans bids fair soon to become a very great favourite among those who make a feature of growing early Peas, more particularly those whose gardens are small or situated in districts where the ordinary Pea sticks are difficult to procure. Early in March we sowed four rows of this, together with rows of two other popular earlies, one of which has for many years been a great favourite of mine; and at the same time we planted nearly a dozen short rows of what is perhaps the most popular of all early dwarfs. These were strong plants raised in cold frames, the seed being sown early in the year. Each variety, although averaging about 18 inches in height, was given short, bushy sticks, and watered very freely during the latter part of May and early June. The difference between the dates when well-filled pods could be gathered from each row was very little, Masterpiece being a trifle behind the

variety planted out from pots, but the weight of the crop was nearly double, nearly every pod containing nine or ten large Peas, these being a beautiful deep green, and when cooked equalled any of the later Marrowfats in flavour. F. R. C.

NOTES FROM A COUNTY DOWN GARDEN

I WAS on a visit to a house in this neighbourhood some time ago and saw a fine specimen of the climbing Rose Grüss an Teplitz. It seems to make an admirable wall Rose, and it is very fragrant and attractive. I also noted a bed of Irish Elegance. This Rose is quite good enough to grow almost for its foliage alone, and what a choice lot of buds it gives late in the autumn! These, if brought in while in the bud stage, develop beautifully and show their copper tints to perfection. Irish Fireflame is another lovely Rose of this class.

I was speaking to a gentleman some time ago about storing Apples. He said he put his in a pit like Potatoes, and that they kept quite well until the following May. This is a way out of the difficulty of storing; but what of the "boys" going about? If they (the Apples) were not in a secure place, I am afraid there would be a shortage.

I saw a pretty sight recently in the garden. It was a Red Admiral butterfly preening itself on the breast of a Sunflower. What brilliance of colour there was! I remember seeing Red Admirals in great numbers on Veronicas, and wondered very much what they were doing there. Nature is full of such surprises.

Border Chrysanthemums are rather late here this year, but, nevertheless, we have had a Chrysanthemum Day recently which was a great success.

We have tried Miss Jekyll's recipe for pot-pourri which appeared in THE GARDEN recently, and it is going to be a success. After all, one likes to follow the instructions of a past-master in gardening topics rather than a novice, whose recipes are generally too artificial and produce the fragrance of a chemist's shop.

I was in an old-fashioned house in an old-fashioned town not long since, and admired the peace of the quaint old garden with its gnarled fruit trees. One does like old things, especially old gardening books, which have a charm of their own. I picked up a couple of these many years ago in Smithfield, Belfast, and they are splendid reading for an idle hour. The instructions in them are quite valuable, and I think there are a great many unnecessary things done nowadays, as, for instance, shifting plants from pot to pot when they can be potted right off at first into the largest pot they have got to bloom in. This is called the "one-pot system" (see Johnson's Gardening Dictionary).

The Japanese Maples, Virginian Creepers and Stag's-horn plants are looking beautifully crimson at present, and I notice Schizostylis coccinea coming into bloom. I think the Crocuses will be early next spring, as their points are nearly an inch long.

Holywood, County Down. WALTER SMYTH.

Methods of Potato Culture

WITH so many plots of Potatoes in cultivation this season there must be great diversity in the methods of culture. Many experiences are being gained, and much of what is peculiar and inexplicable will be noted.

A Change of Seed will perhaps provide a greater cause of satisfaction than any other. Even in this there will be exceptions to the general rule. Never before has the advantage of an entire change of seed been more fully displayed. Even on newly ploughed plots of grass there is a marked difference in the appearance of the haulm in the breadths where the seed came direct from Scotland or Ireland as compared with those grown from seed once removed and grown in the same area, although not on the same site. In the growth of the former the haulm is much more robust, the leaves larger, with a greater possession of chlorophyll, or colouring matter. In the case of home-grown seed, generally the haulm produced is irregular in height, weak in growth and pale in colour, with all the appearance, in many cases, of an early attack of rust and a premature collapse of growth. In most instances where the seed was planted back again on to the same site the results are of a meagre character, and should certainly deter anyone from repeating such an experiment. I am positive it is bad policy to plant a second time from certain stocks.

The cause of failure or success with seed Potatoes under apparently favourable conditions as to site, soil and cultivation would be an interesting theme for scientific experts, and would confer a boon on cultivators generally. I think this season's crops prove the value of space between the rows as compared with those where the haulm has been sadly overcrowded. E. M.

CATTLEYA ASTRON THE DELL VARIETY.

New and Rare Plants

FIRST CLASS-CERTIFICATE.

Cattleya Astron The Dell Variety (Dusseldorfiana Undine × Harrisonii Stanley's Variety).—A remarkable and chaste hybrid which, in the clustered character of the inflorescence, evidences the influence of the last-named parent. The shapely, well-proportioned flowers are solid white, save for the green shading which characterises the sides and central parts of the lip and emphasises the purity of the whole. The lip is also prettily fringed. The spike bore six handsome flowers. From Mr. J. E. Shill, The Dell Gardens, Englefield Green.

AWARDS OF MERIT.

Chrysanthemum Crusader.—A pure white decorative variety with slightly reflexing florets, whose crispness denotes keeping qualities of a high order. From Messrs. Lowe and Shawyer, Uxbridge.

Chrysanthemum Alex Hervey.—A superb golden-coloured Japanese exhibition variety. The flower-head is of great depth and of the largest size; the florets crisp and of good quality. Shown by Mr. H. J. Jones, Lewisham.

Chrysanthemum General Petain.—A drooping Japanese of large size and silvery pink colour.

Chrysanthemum Donald (Single).—The flower is rounded and well formed, the colour deep rose pink. As shown, the stems were short. From Messrs. W. Wells and Co., Limited, Merstham.

Sophro-Lælio-Cattleya Bryndir (S.-L.-C. Sandhage × L.-C. Golden Oriole).—Save for the gold reticulations at the base of the lip the whole flower is of deep vinous red or claret colour. A shapely variety of good size. Shown by Dr. M. Lacroze, Bryndir, Roehampton (Orchid-grower, Miss Robertson).

The foregoing were shown before the Royal Horticultural Society on the 6th inst.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE fortnightly meeting held on November 6 showed a considerable falling off in the number and variety of exhibits, albeit the annual exhibition of the National Chrysanthemum Society, held in conjunction therewith, contributed not a little to the general display. Orchids were, however, shown in considerable variety and excellence, the fine group from Messrs. Armstrong and Brown, Tunbridge Wells, being noteworthy. An exhibit of fruit (chiefly Apples) from Messrs. Cannell was a great attraction, superb quality characterising the whole. Nerines were well shown from two sources and afforded a welcome colour warmth. Carnations were also fresh and good. Several new plants received recognition.

ORCHIDS.

The most notable single exhibit was Cattleya Astron The Dell Variety, a lovely pure white (see "New and Rare Plants"). The most notable group came from Messrs Armstrong and Brown, Tunbridge Wells, the exhibit including many choice specimens. Among the rarest was Cattleya aurea albens, whose sepals and petals are pure white, the lip being as in the type. Others of

conspicuous beauty or merit were Odontoglossum Aspasia (very dark blotched variety), O. Adonis (a singularly white form with a few dark rounded spots) and O. Madeline (of rich orange and brown and gold markings). Cattleya Illustris Cloth of Gold is self-descriptive; it is a remarkable bit of colour. Very pure and good were Cattleya Claesiana alba and C. Saturn alba, while Cypripediums and Cymbidiums also played a prominent part.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gardener, Mr. W. Collier), sent Cattleya Portia Lorna Fielden (of rich rose colour) and Odontoglossum splendidum album.

Mr. C. F. Waters, Balcombe, Sussex, had a delightful series of seedling Cattleyas, among which were good forms of C. Fabia. The most notable, however, was a seedling from Harrisonii × Colonia, the soft rose colour of the big flower cluster very beautiful. C. Cliftonii was also good.

In that from Messrs. Sander and Sons, St. Albans, the new Cattleya Una was prominent, its rose and white effect very pleasing. C. Mary Sander alba (very pure), C. Fabia alba, Lælio-Cattleya luminosa variety and Odontoglossum crispum Harryanum were others of note.

Messrs. Charlesworth and Co., Hayward's Heath, staged fifteen flowering examples of Cattleya aurea; quite a show alone. C. Princess Royal and Brasso-Cattleya Rutherfordii (softest pink with gold touched throat) were also noted.

The very fine Brasso-Cattleya Dietrichiana Anealds' Variety (salmon and delicate fawn with gold base to the heavily fringed lip) was shown by Mr. J. Anealds, Rose Bank, Mumbles.

NERINES.

Of these, Mr. Herbert Chapman, Rotherside Gardens, Rye, had some charming things, the brilliant Montague Chapman, named in honour of his only son, being one of the most striking. Miss Woolward, rosy salmon, good truss, very decorative, was beautiful and free; Rosy Morn has the segments shaded with heliotrope; Dawn is a most brilliant red, and Gaby Deslys is deep cerise. The dull carmine coloured Luna Buckhorse has a faint purple stripe; Glowworm, a narrow-petalled sort, is of bright cerise scarlet tone, Keston Beauty having waved segments coloured salmon scarlet. A very beautiful series.

Some good Nerines, too, were shown by Mr. G. Reuthe, Keston, Galatea (cerise), Rheingold (salmon), Juliet (of Bowdenii form), Rosalind (deep carmine) and Rosebud (with white central line) being very distinct. The varieties of N. corusca also made a brilliant display. In addition Mr. Reuthe showed Crocus Tournefortii, a species whose flowers remain expanded when once open. It is of mauve or lilac colour, very refined and pretty. C. græcus, virtually a late-flowering C. asturicus, was also noted. Specimens of Decaisnea Fargesii, with long blue fruits were also on view.

FRUIT.

For a magnificent exhibit of seventy dishes of fruit (chiefly Apples) Messrs. H. Cannell and Sons, Eynsford, Kent (Mr. J. Lawson, manager), were awarded a silver-gilt Knightian medal, though in the opinion of excellent judges it merited a higher award. The produce was superb throughout, the generous dishes in conjunction with an exhibit rich alike in variety and utility responsible for the high-class display. While Peasgood's Nonsuch constituted a great centre, one of the most meritorious dishes was, in our opinion, Wellington. This could hardly have been surpassed. Of grand quality and size, too, were Emperor Alexander, Bramley's Seedling, Bismarck (particularly good in colour), Coronation (gold and crimson), Annie Elizabeth (a very handsome lot), Gascoyne's Scarlet, Blenheim Orange, Newton Wonder and others. Of Cox's Orange there was a grand dish of fruits, Brownlee's Russet, Leathercoat Russet and Allington Pippin being also first rate. A highly creditable exhibit.

A dish of Apple Orange Pippin, an excellent dessert sort, said to be from a tree 100 years old, was shown by Mr. A. Bayley, Revelstoke, Slough. The fruit is very juicy and palatable.

NATIONAL CHRYSANTHEMUM SOCIETY.

IT was quite obvious to the *habitués* of the exhibitions of this special society that the influence of the war was being sorely felt, for instead of experiencing difficulty in accommodating the large number of exhibits that is usual at the autumn festival of this society, the tables of two or three avenues sufficed to display the whole of the exhibits of Chrysanthemums set up on this occasion. Quite good quality was represented in most of the exhibits, the Japanese and single types of the flower being well shown. Table decorations, vases and other decorative exhibits all combined to make an interesting display. The shortage of blooms may be attributed to want of labour and lack of transport facilities.

TROPHY CLASS.

The Finchley Chrysanthemum Society again won the Affiliated Societies' Trophy for twelve vases of cut Chrysanthemums representing singles, Anemone-flowered, pompons, incurved and Japanese varieties. Of the singles, Jessica and Mrs. Reece-James; Anemones, Descartes and Delaware; incurved, Triomphe de Montbrun, Buttercup and Mrs. Percy Wiseman; and Japanese, Mrs. R. Luxford, Rosamund and D. B. Crane were the best of the series.

JAPANESE VARIETIES (OPEN CLASSES).

There were four entries in Class 3 for twenty-four Japanese blooms, distinct, and the leading stands represented this type of the flower in excellent condition. First prize was deservedly awarded to Mr. W. J. Smith, who had a very even lot of blooms of good quality. The more noteworthy were Louisa Pockett, Mrs. J. Gibson, Queen Mary, Mrs. Lloyd Wigg, Undaunted, Rear-Admiral, Mrs. R. Luxford, K. Luxford, F. S. Vallis, Mrs. R. C. Pulling, Golden Champion (very fine), H. E. Converse and Lady Talbot. Mr. A. Smith was placed second with blooms much less pleasing. Mrs. G. Drabble, Master James, Mrs. J. Gibson, Queen Mary and F. S. Vallis were the better blooms. Third prize was awarded to Mr. E. Dove, gardener to Mr. H. Bennett, Abbeyfield, Bickley, Kent, with a really attractive display.

THE NEW CHRYSANTHEMUM DONALD.

Class 4, for twelve Japanese blooms, distinct, proved to be a very spirited contest. Leading honours were secured by Mr. H. Blakeway with a wonderful lot of large and handsome blooms. W. Rigby, His Majesty, Queen Mary, Mrs. H. Kinsey, Bob Pulling, Frances Jolliffe, Mrs. G. Drabble, Mrs. Pulling, Mrs. Algernon Davis and Mrs. J. Gibson were all very good indeed. Second prize was won by Mr. D. Barnard, gardener to the Lord Wandsworth Institution, Long Sutton, Winchfield, Hants, with a beautiful series of large blooms of splendid quality. James Stredwick, Reginald Vallis, Mrs. R. Luxford and Queen Mary were noteworthy. Mr. W. J. Smith, with a handsome lot of flowers, though less even than the others, was placed third. H. E. Converse was a very fine flower.

Class 5, for six Japanese blooms, distinct, found five exhibits, and Mr. W. J. Smith, gardener to Mrs. Hamilton Fellows, Tangley Park, Worplesdon, Guildford, was adjudged first with splendid flowers. Lady Talbot, Mrs. H. J. Jones, Mrs. H. E. Converse, R. C. Pulling and Mrs. A. E. Tickle were all very noteworthy. A very close second was found in Mr. H. Blakeway, gardener to Mr. W. H. Allen, Bromham House, Bedford. W. Rigby, Mrs. Gilbert Drabble and His Majesty were very fine in this stand. Mr. A. Smith was third.

INCURVED BLOOMS (OPEN CLASSES).

There were two competitors in the class for twenty-four incurved blooms, distinct, which is one of the classes for the Holmes Memorial Cup. Leading honours were awarded to Mr. A. B. Hudd, gardener to Mrs. Chalmers, Farrants, Bickley, Kent, who had large, fairly even blooms. Mrs. P. Wiseman, Buttercup, Pantia Ralli, Douglas Wells, Calypso, Godfrey's Eclipse, J. Wynne, Romance and Clara Wells were a few of the better blooms in this exhibit. A good second was found in Mr. E. Dove, who had slightly larger blooms in most instances, but they were rather rough. Buttercup stood out in this stand.

In the class for twelve incurved blooms, Mr. Hudd was again first with fair specimens, and Mr. Dove followed again with larger blooms, but less even than those in the leading stand.

The same order was observed in the class for six incurved, distinct, Buttercup and Mrs. P. Wiseman in the leading stand being excellent.

POMPONS.

First prize was awarded to Mr. A. Robertson, gardener to Mr. F. J. Yarrow, 18, Abbey Road, St. John's Wood, N.W., in a class for six vases of pompons, distinct. The blooms were very good, and represented the following varieties: Prince of Orange, Black Douglas, W. Westlake, Mlle. Elise Dordan (2), and W. Sabey. This was the only exhibit in this class.

TRADE DISPLAYS.

Mr. Norman Davis, Framfield, Sussex, won the gold medal presented by Messrs. Clay and Sons, Stratford, for the best trade display in the show; and the silver-gilt medal of the society for his table group of Chrysanthemums. His new, rich velvety crimson Japanese, Mrs. George Monro, jun., which gained a first-class certificate at the meeting of the floral committee, was well shown, as were Edith Cavell, Mrs. Algernon Davis, Market Bronze, and good individual blooms of Florence Reed and a number of good singles.

A silver medal was awarded to Messrs. W. Wells and Co., Merstham, Surrey, for a table group of decorative Japanese and singles in variety, all most pleasing and attractive.

FLORAL COMMITTEE.

Quite a number of novelties were placed before the floral committee for adjudication, and as a very high standard of quality was observed, few of these gained distinction. The following were recognised with an award: Mrs. George Monro, jun.—A large and attractive bloom of even, reflexed, drooping form, having fairly broad, rather pointed florets neatly disposed, and building a splendid Japanese exhibition bloom. Colour, brilliant crimson, with bronze reverse. First-class certificate. From Mr. Norman Davis, Framfield, Sussex. Alex. Hervey.—A highly attractive Japanese exhibition bloom, having long, drooping florets of medium width. Colour, rich golden yellow. Commended. From Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E. Lustre.—This is a large decorative Japanese bloom of pleasing form with long, fairly broad florets, slightly curled and twisted. Colour, chestnut, with golden reverse. Useful for market growers. Commended. Also from Mr. H. J. Jones. The committee wished to see again Donald, a very distinct and pretty single of medium size and beautiful form. The colour is one of its best points, this being a unique tone of pink. Other good sorts were General Pétain, Mrs. W. Holden, Mrs. Wainwright and W. Holden.

BOURNEMOUTH AUTUMN SHOW.

THE thirty-first autumn exhibition of fruits, flowers and vegetables was held recently in the spacious pavilion at the Winter Gardens, and in every way proved a great success. Perhaps Bournemouth has never before accommodated a display of fruit and vegetables equal to the one now referred to, and certainly from an individual firm no collection of vegetables equal to the one staged by Messrs. Sutton and Sons of Reading; about seventy dishes were arranged in faultless style. Messrs. R. Veitch and Sons, Exeter, put up a beautiful group of berried shrubs and Apples; Mr. J. Stevenson of Wimborne, Chrysanthemums and Apples; Messrs. Parsons and Morris, Parkstone, fruit and vegetables; Mr. C. A. D. George, Corfe Mullen, richly coloured Apples; Messrs. Stuart Low and Co., Bush Hill Park, Enfield, Orchids and Tree Carnations; the Park Nurseries, Bournemouth, single Chrysanthemums and Apples; Mr. V. D. Hughes, Wellington Nurseries, Broadstone, fruit and vegetables (the last-named gentleman gave five guineas as the first prize for a collection of twelve dishes of Potatoes); and Messrs. Jeans and Trowbridge, Bournemouth, fruit and vegetables. These, the principal displays from non-competitive exhibitors, added greatly to the fine appearance of the exhibition. The following are a few of the principal winning exhibitors in the

COMPETITIVE CLASSES.

For a collection of twelve dishes of Potatoes (not fewer than six varieties) Major Sir R. Baker, M.P. (gardener, Mr. A. E. Usher), was first with beautiful tubers of Up-to-Date, The Ally, Satisfaction, Scottish King's Pink,

King George V., The Provost, Colonist, Dobbie's Favourite, Arran Chief and Great Scott. Second honours went to Major E. Tinker (gardener, Mr. W. Weaver), New Milton, and third to Messrs. Jeans and Trowbridge, Bournemouth. The collections in this class made a fine display.

For a collection of vegetables, six distinct kinds, Mr. George Garner, Highcliffe-on-Sea, was first; Mr. W. F. Dickenson (gardener, Mr. B. Dacre) second; and Messrs. Jeans and Trowbridge third. Mr. Garner won in the classes for collections of vegetables, six distinct kinds, the prizes for which were given by Messrs. T. K. Ingram, Parkstone, and Messrs. G. Watts and Sons, Limited, Bournemouth, respectively. Mr. Usher had the twelve best Onions and twelve Carrots, respectively; Mr. Weaver the twelve best Parsnips, and Messrs. Jeans and Trowbridge the winning Beet.

Mr. Garner was successful in the open class for two bunches of black Grapes, also in the local division for two bunches of black, Mr. C. Jones-Pateman being second. For one bunch the latter gentleman won; second, Mr. Garner; third, Dr. Ramsay (gardener, Mr. W. Webb), Bournemouth. In the class for the most tastefully arranged collection of fruit and flowers on a table 5 feet by 4 feet, Mr. Garner was the winner, having a central silvered arch from which bunches of Grapes were suspended, Grapes in dishes at the corners, Apples and Pears in other receptacles, Asparagus Fern, Grasses and Source d'Or Chrysanthemums in vases.

Mr. Dacre staged the four best dishes of dessert Apples—Cox's Orange Pippin, King of the Pippins (grand), Charles Ross and Rival. He was followed by Mr. W. Webb and Mr. J. Stevenson, Wimborne.

Mr. Weaver won in the class for four dishes of kitchen Apples with Peasgood's Nonsuch, Warner's King, Bismarck and Beauty of Kent. Single dishes of Apples and Pears were well shown by Mr. E. M. Scott, Mrs. Francis Pretty, W. H. Thomson, Esq. (gardener, Mr. H. Trask), and G. G. Russell, Esq. (gardener, Mr. G. H. Heath). Mr. Trask won the silver cup offered for a group of Chrysanthemums, staging a charming collection of decorative and other varieties.

Mr. B. Dacre won the silver challenge cup in the class for nine Japanese Chrysanthemums, cut blooms. Only a few classes for flowers were scheduled. The singles were quite charming.

Many classes were provided for cottagers and allotment holders, and all were well filled with excellent produce.

NON-COMPETITIVE EXHIBITS.—AWARDS.

Gold Medal.—Messrs. Sutton and Sons, Reading, for a superb collection of vegetables.

Silver Medals.—Messrs. R. Veitch and Sons, Exeter, for shrubs and Apples; Mr. J. Stevenson, Wimborne, for Chrysanthemums, Apples and Pears; Mr. C. A. D. George, Corfe Mullen, for Apples grown on peat-land; and Messrs. Parsons and Morris, Parkstone, for Apples.

Bronze Medals.—The Park Nurseries, Bournemouth, for Chrysanthemums, Apples and Mushrooms; and Messrs. Jeans and Trowbridge, Bournemouth, for Apples, Pears and vegetables.

HORTICULTURAL SOCIETY FOR GRETNA FACTORY.

A MEETING was held in the Town Manager's Office, Gretna, on November 1 to consider the advisability of forming a horticultural society in connection with H.M. Factory, Gretna. There was a good attendance, presided over by Mr. John Harkness, Town Manager. After consideration it was agreed to form a society, entitled the Gretna Factory Gardeners' and Allotment Holders' Association. Mr. John Harkness was appointed president; Mr. Evan Tweedie, vice-president; Mr. Robert Bell, secretary; and Mr. F. M. Good, treasurer. It was agreed that the committee should consist of sixteen members, arranged to represent the various districts of the area of the factory. The Gretna representatives were appointed as follow: Mr. R. Brooks, Mr. R. Cairns, Mr. A. Dewick, Mr. R. Dewhurst, Mr. J. M'Hardy and Mr. W. M'Whir. As the houses of the factory are mainly arranged in the garden city style and there are numerous gardens and plots, a felt want will be supplied by this society.

ANSWERS TO CORRESPONDENTS

THE GREENHOUSE.

INJURY TO CARNATION STEMS (*R. W. D.*).—The Carnations are not attacked by eelworms, but by the "fairy ring" fungus of the Carnation, Helminthosporium echinatum. The atmosphere in which the plants have been kept has probably been too moist and close, and if the plants are syringed with a rose red solution of potassium permanganate after the removal of the leaves that show the diseased patches and are afterwards kept where the air is dry (but, of course, not dry at the root), we think they will be likely to grow away free from the disease.

TREATMENT OF NERTERA DEPRESSA (*N. Y. O.*).—The main essentials in inducing Nertera depressa to fruit freely is to keep the plants in a good light, airy position during the flowering period and to avoid watering them overhead at that time. The Nertera, whether grown in pots or pans, will thrive in a mixture of loam, peat, leaf-mould and sand. Thorough drainage is necessary, and copious supplies of water should be given at the roots during the growing season. At that time overhead watering will be beneficial. Whether in a frame or greenhouse, plenty of air should be given, especially as the plants approach the flowering stage. With regard to the temperature needed, it should be borne in mind that this Nertera is almost hardy; hence a minimum temperature of 45° will be quite sufficient for it. During the summer a cold frame or a greenhouse will suit it well; in fact, it will be quite at home outdoors at that season.

NERINES AND INDIAN AZALEAS (*Burton*).—As Nerines are grown in pots, you may take up their culture at any time. If you obtain them now, they must, during the winter, be given a good light position in the greenhouse, and be watered when necessary, as they continue to grow throughout that season. As spring advances, the leaves will turn yellow, when water must be gradually discontinued, and when the bulbs are quite dormant they must be kept perfectly dry and stood in a sunny spot. Then, towards the latter part of August or a little later, the flower-spikes will begin to push, when the plants must have a good watering. As the soil will by then be so very dry, the most satisfactory way to moisten it will be to soak the pots in a pail of water. The spikes will then make rapid progress and flower in due season. Though you may buy the bulbs now, one point in favour of putting it off till next autumn is that you will not have to grow them throughout the intervening time. These bulbs may be obtained from Messrs. Barr and Sons, 12 and 13, King Street, Covent Garden; Mr. F. Lilley, St. Peter's, Guernsey; and Mr. G. Reuthe, Keston, Kent. Azaleas should at the present time be kept in the greenhouse and be well supplied with water. During mild, bright days a syringing overhead in the morning will be beneficial.

FRUIT GARDEN.

INJURY TO APPLE AND PLUM BRANCHES (*Highfield*).—The cause of the death of the branches sent cannot be ascertained, for it is operating lower, probably much lower, down the trees than the pieces were taken from. It may be canker, but this disease is not shown on the shoots; or it may be death of the roots through insufficient drainage. You will find some excellent advice in recent numbers of THE GARDEN on planting in heavy soils, and this may suggest something to you concerning the cause of the trouble.

MISCELLANEOUS.

NAMES OF PLANTS.—*A. A.*—Escallonia macrantha.——*A. K.*—Solanum Capsicastrum (Star Capsicum).——*W. D.*—1, Cannot identify leaf alone, please send flowers; 2, Clerodendron squamatum; 3, Asparagus plumosus; 4, Cypripedium insigne.

NAMES OF FRUIT.—*M. E. P. I.*—1, New Bess Pool; 2, Cox's Orange Pippin; 3, Barnack Beauty; 4, White Doyenné; 5, Josephine de Malines.——*E. E. W.*—Pear St. Luke.——*S., Wilts.*—1, Pineapple Russet; 2, Blenheim Orange; 3, too poor to name; 4, King of the Pippins.——*R. E. S.*—1, Lord Derby; 2, Emperor Alexander; 3, Cox's Pomona; 4, Lady Henniker; 6, Cellini; 8, Lemon Pippin. The others were too poor to name.——*Agricultural Labourer.*—1, Nutmeg Pippin; 3, local Apple, not known; 4, Hollandbury; 6, Red-ribbed Greening; 7, Potts' Seedling; 8, Gibbon's Russet; 10, Claygate Pearmain; Pears: A, Vicar of Winkfield; B, quite smashed; C, probably Pitmaston Duchess—very damaged. The others are local sorts we do not recognise.

Outstanding Roses in a Scottish Garden in 1917

IN a season of very mixed climatic conditions our Roses have been really very fine, and but for the heavy rainfall and want of sunshine during August must have been even better than usual. The season was a late one, growth being very slow to start in spring, but with May, June and July dry and sunny, considerable leeway was made up, and our first crop of bloom towards the end of July was indeed glorious. Never previously has Mme. Ravary been so fine, and its perfume was the strongest and most delightful of any Rose we have. Probably the finest were Lady Pirrie, Mme. Mélanie Soupert, Lady Ashtown, Lyon Rose, Mme. Maurice de Luze, Pharisaër, Mrs. Edward Powell, George C. Waud, Mme. Edouard Herriot, Mrs. John Laing, Rayon d'Or, Liberty, General Macarthur, M. Paul Ledé, and Mme. Ravary.

In the late autumn (we are still—October 20—enjoying some really good blooms) the outstanding sorts have been General Macarthur, Gustav Grunerwald, Pharisaër, Rose du Barri, Lyon Rose, Antoine Rivoire, Mrs. A. R. Waddell, Hugh Dickson, M. Paul Ledé, Liberty, Lady Ashtown, and Richmond. Many of the newer varieties have been most disappointing, too many of them seemingly being chosen for colour alone, as they, although well grown, much too quickly show the "eye." Mrs. Alfred Tate is good, Queen Mary fair, and Mrs. Norwood very fine. No other new variety that we tried this season is at all worth the space it occupies. Probably the variety that has given the greatest number of perfect blooms this season is Lyon Rose. The colour varied considerably, of course, but even the poorest-coloured blooms were exquisite in form. We could do with a number of good colours with equal consistency of form. I took special note of the varieties here that are most richly perfumed. Here they are: Lady Pirrie, General Macarthur, Hugh Dickson, Richmond, Mme. Ravary, Lieutenant Chauré, Betty, Gloire de Dijon, Mrs. John Laing, Château de Clos Vougeot, Viscountess Folkestone, Juliet, La France, Laurent Carle, Grüss an Teplitz, Charles Lefebvre, Avoca, Zephyrine Drouhin, Mme. Isaac Pereire, General Jacqueminot and Mme. Maurice de Luze.

Preston Gardens, Linlithgow. C. BLAIR.

Correction.—In the article on "Oxted Place" which appeared in our recent Rose Number, it is stated that Mr. Herbert Wettern regards M. West as the best all-round Rose for bedding and cutting. So far as we know, there is no Rose of this name. There is, of course, a variety named Mrs. Cornwallis West, but this is an exhibition Rose. The variety which should have been singled out for bedding purposes is Mme. Leon Pain.

Produce of Crops.—From the Preliminary Statement on the Agricultural Returns of England and Wales, 1917, issued by the Board of Agriculture, the total production of Wheat in England and Wales in 1917 is estimated at 7,164,649 quarters, or 330,000 quarters more than last year; and the yield per acre, 29·88 bushels, is 1¼ bushels greater than in 1916, though 1½ bushels below the average of the ten years 1907–16. Although the yield per acre of Barley is three-fourths of a bushel smaller than in 1916, the total production, 5,539,514 quarters, is 360,000 quarters greater, owing to the increased area under this crop. The total production of Oats, 10,866,765 quarters, is 450,000 quarters more than in 1916, and the largest crop since 1907. This large crop is due to the increased area, as the yield per acre is 1½ bushels less than a year ago, and about the same amount below average. Beans are a very poor crop, and are the smallest crop recorded since 1885, both in total production and yield per acre. Peas are rather more satisfactory, and the total production is slightly greater than last year, but still much below normal. The total production of hay from Clover and rotation Grasses is 2,405,468 tons, or nearly 500,000 tons less than the large crop of last year. The yield per acre, 28·60cwt., is 4¼cwt. lighter than in 1916, and nearly 1cwt. below average. The total production of hay from permanent Grass, 5,149,537 tons, is also less than in 1916 by some 800,000 tons, the yield per acre in this case being rather over 3cwt. less than last year, and 1¾cwt. under average. Taking all kinds of hay together, the total production is 7,550,000 tons, which is 1,280,000 tons less than last year, but nearly 1,000,000 tons more than the total production in 1915. The returns of the production of Potatoes and roots are collected at a later date, and will be issued subsequently.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.2.*

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FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

AGAIN I devote my notes to readers' poultry problems as raised in current correspondence. The difficulties brought up by querists represent to my way of thinking a mirror in which are reflected the things poultry-keepers wish to know.

Early Laying.—In an earlier article I warned my students against the early laying of *immature* pullets, and recommended ways of preventing the same. I also set out the disadvantages accruing from this too early laying. Mr. F. G. Bell of Sheffield has sent me a letter that bears on the subject, an extract from which is here given:

> "Will you, if possible, explain why one of my Leghorn pullets, hatched on April 23, 1917, which commenced to lay on September 2, laid twelve eggs up to September 23, then ceased and has not yet recommenced? She appears healthy with the exception that her comb lacks colour and is somewhat shrivelled. What special treatment do you recommend?"

Those who will refer to my earlier notes will see that the above case was quoted as coming under the *disadvantages* resulting from allowing too early laying. Mr. Bell's pullet laid before she was five months old and stopped directly a cold or unfavourable spell came along. It is a typical case, and amply proves that pullets should not be allowed to commence their egg-output until they are fully matured. Had the pullet in question given her first egg in October when six months old, there would not have been this break in activities.

Treatment Recommended.—Treatment is difficult once the "break" has arisen. The remedy should have been applied before September 2, the date the first egg was yielded. Directly the bird showed signs of reddening up too quickly in headgear, she should have been fed on a less stimulating diet and moved with her companions to new surroundings or fresh quarters. In the ordinary way such pullets do not come on to lay again till Christmas, so that one is well rewarded in taking these early layers in hand in good time. Small eggs are invariably the result, because with the commencement of laying, as I pointed out, growth stops. It should be the aim of the poultry-keeper to bring his pullets on to lay as the cold weather sets in, and then the birds remain on active service right through the winter months. The only plan for Mr. Bell to adopt now is to try a liberal system of feeding. This will often entice such pullets to commence laying again.

A Liberal Diet.—The pale and shrivelled comb merely denotes that the pullet is out of laying condition. Such a symptom is noticeable in all birds that are resting after a period of laying, and, of course, in those that have not reddened up for egg-production. The provision of animal food in the soft mash will have a good effect on such pullets reddening up the headgear and hastening the formation and production of eggs. Starting with 10 per cent. of fish-meal or meat-meal in the mash, the owner can gradually increase it until 15 per cent. or 20 per cent. is reached. When laying starts again, the feeder can go back to the 10 per cent. of animal food, which I consider about the right amount for pullets or hens *in lay*. One can often bring on laying by a little extra animal food so long as a surfeit is not provided. If poultry-keepers would only make a practice of using animal matter in their soft mashes in the proper proportion, they would secure much better egg-returns. It is an essential ingredient of an egg-producing mash, although, as I have pointed out, it must be used judiciously.

Soft Food in Toto.—Occasionally my correspondent may with advantage give two feeds of soft food on two days in the week, dispensing with the grain on such occasions. It is surprising the good effect this plan has on backward pullets, and hens and pullets that are resting. It would not be wise to give soft food *in toto* day after day, as this would be too stimulating, but two or three times a week mash for breakfast *and* tea will prove beneficial to certain birds. Late-hatched and backward pullets, pullets that have not yet started to lay, and hens that have finished their moult but not started laying, are the ones that will benefit by the plan of feeding here outlined. Where this original method of mine is carried into practice, be careful to provide shell and grit *ad lib.* With any forcing diet soft-shelled eggs will prove troublesome unless plenty of shell is handy for the fowls. On days when the grain is dispensed with, greenery will, of course, be given at midday as usual.

Change of Quarters.—When treating upon the bugbear of early laying in an earlier article I pointed out that change of quarters will often provide the remedy and check laying; and I also warned readers against moving pullets to fresh surroundings when on the point of laying. My suggestion was that the pullets should be placed in their winter quarters about mid-September and be allowed to settle down quietly ready for laying. That my advice was highly practical is clearly seen from the following extract from a letter to hand this week from Lieutenant-Colonel B.:

> "In March I hatched out fifty White Wyandotte pullets from eggs bought from a well-known breeder. Up to late October they were kept in a house away from my adult hens. Two or three began to lay, so I moved all into their permanent winter quarters. This has seemed to stop laying."

I am afraid my correspondent has rather spoilt his chances of getting full egg-baskets in November. He will now have to wait till the birds "find their bearings" in their new quarters before eggs are again forthcoming.

Moulting of 1917 Pullets.—Mrs. B. C. P. seems very worried because her pullets have been dropping feathers during the past month. She has nine handsome March-hatched White Wyandotte pullets, and she fancies that she has read "that by hatching in March they would avoid a moult." She now fears that the dropping of the feathers will retard their laying. Very few poultry-keepers are aware that chickens under a year old moult. Yet this is true, although the change of the feathers is not so rapid or so marked as in the case of adult hens in their *second* season. My correspondent has no cause for worry. The moulting that retards laying, of which she is thinking, occurs with very early hatched pullets, which, after laying a few eggs in early autumn, have a false moult and a rest before commencing to lay again. It is the fancier who experiences such troubles, because he hatches out chicks from January onwards.

Dry Mash Feeding.—Another correspondent says he is experiencing difficulty in persuading his hens to take to the dry mash system of feeding. He asks if I can recommend an appetiser. Fowls are peculiar little creatures, as I have so often remarked in my notes, and do not take readily to sudden changes. My querist made the mistake of dispensing with the wet mash and substituting the dry too quickly. When introducing the dry mash to fowls that have been accustomed to soft food it is advisable to retain the latter for a time after the change has been decided upon. At first the dry mash hoppers can be available for an hour at midday and the wet mash be fed in conjunction at the usual time. After a few days the dry mash hopper can be left open a little longer and the amount of wet mash can be gradually reduced. When the owner is sure that the birds have taken to the dry mash, he can dispense with the soft food and rearrange his feeding time-table.

Breed for Scotland.—A very interesting letter comes from a Scottish reader, in whom, being a novice, I have long since taken a kindly interest. He writes to say that he has had his first egg, and all his pullets look in beautiful trim. This correspondent is not favourably placed, his site being an exposed one, and when he first sought my advice I recommended him to try Black Leghorns and instal several intensive structures. Starting last spring with sittings of eggs and day-old chicks, mortality has been very low, thus proving that my recommendation of Black Leghorns was well founded. The fact that the "first egg"—always a flag-flying event with novices—has been recorded already still further enhances the claims of the stylish Black Leghorn for Scotland and exposed sites. The birds have black plumage and yellow legs, lay white-shelled eggs, and are very hardy.

Black Mendels.—In THE GARDEN of November 3 I gave an illustration of a Black Mendel with notes on this new breed. Mr. J. H. Burn-Murdoch writes that many readers have written him for fuller details, and a few have congratulated him as the "originator." He wishes me to correct this impression. Mr. Oscar Smart, the well-known biologist, poultry Mendelist and expert adviser to the Scientific Poultry Breeders' Association, is the originator and bred Mr. Burn-Murdoch's stock birds. Mr. Burn-Murdoch, who is on the Council of the S.P.B.A., is specialising in Mendels exclusively.

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St. Peters, Exmouth, Nov. 6th, 1917.
Mrs. F. would be glad if Messrs. Cook would send another cwt. of mplete Ideal Meal, **which she has found most economical d satisfactory.**

39, Upper Portland Street, Aston, Birmingham, Nov. 5th, 1917.
enclose £2:2:0 for another 2 cwts. **of your Complete Ideal al, which, judged by results, is undoubtedly the most tisfa tory food I have ever had for my hens.**—G. COLEY.

Nunfield Cottage, Hartlip, Sittingbourne, Nov. 5th, 1917.
lease send another cwt. of Original Ideal Meal. I am pleased to that the Leghorns I bought from you as day olds, reared and fed on r food, are in full lay and have been since they were 5½ months old.
H. F. WITHRINGTON.

53, Wigan Road, Ormskirk, Nov. 5th, 1917.
lease send another bag of Ideal Meal **which has given splendid sults.**—H. G. TITTERSHILL.

Stortford, Poplar Road, Heacham, Norfolk, Nov. 2nd, 1917.
should like another bag of your Meal. **I am very glad to be le to recommend your Ideal Meal, for I find it perfect and ve not been without eggs since I used it.** My Rhode Island ds which I hatched from your eggs started to lay in January, the first d on the 15th, and they followed on. **I had eight from the sitting d they have given me 1,284 eggs since they started which really good, as the grain feed is so poor.** I have had several ple enquiring about your food, and I have given all particulars. **I all always recommend it to every one as it is the best food ver used, and never wish to be without it.**—E. POLLICUTT.

18, Sutton Lane, Middlewich, Nov. 3rd, 1917.
Will you forward me two bags, 1 cwt. each, of your Ideal Meal. A end wanted to know what we fed our birds on as they looked so well, I told him it was your Ideal Meal, and he asked me to get 1 cwt. for n, hence double order this time.—ELI HOLBROOK.

15, Clayton Street, Kennington Oval, Lambeth, Nov. 7th, 1917.
am most satisfied with your Ideal Meal. I enclose order for another of Complete Ideal.—S. E. SOANE.

56, London Road, Horsham, Nov. 7th. 1917.
Please send another cwt of Meal, which has given me every satisfac-n, as my birds have laid right throughout the year without a break. EO. POTTER.

135, Roferg Road, Gainsborough, Lincs, Nov. 1st, 1917.
The bag of Ideal Meal purchased a few weeks ago has proved to be hly satisfactory, and I enclose order for a further cwt.—SIDNEY OODS.

41, Sherwood Road, South Harrow, Nov. 4th, 1917.
Will you send me another cwt. of Ideal Meal at once, as I do not want be without it, **for I am more than satisfied with the results tained.**—G. JACKSON.

Fernside, Dale Grove, North Finchley, N., Nov. 4th, 1917.
should like another bag of your Complete Ideal Meal. My hens are ring well, which I attribute to your very excellent food.—M. W.

50, Beulah Road, Walthamstow, E., Nov. 4th, 1917.
t is now about six weeks since I received the first consignment of ur Complete Ideal Meal, which I have used with excellent results, for gs have come along much better than heretofore, and the hens, hough going through moult, have laid well. The old ones I told you ntended to kill off have moulted too, and are all in new plumage, so ey will be kept on. Please send another cwt.—E. B. DARLINGTON.

The Viney, Abberley, Worcester, Nov. 1st, 1917.
Kindly send me on 1 cwt. of your Ideal Meal, **which I have proved be splendid for fowls, and makes a great difference to the g output.**—W. H. PEA.

Plas Issa, Mold, N. Wales.
should be glad to have 1 cwt. of your Complete Ideal Meal. **I used is form of Ideal last Winter with success, and although I ve tried various mixtures since, I have not found one to ual it.**—E. E. W-E., Lt.-Col.

315, Dale Street, Chatham, Nov. 1st, 1917.
Two more of my friends have started to use your Ideal Meal, and I l certain that they will never go away from this. I have proved it to of great value.—E. A. CORDIER.

Prince George, Hillside Road, St. George, Bristol, Nov. 1st, 1917.
intended to give up poultry keeping owing to the cost, but I saw me good pullets and bought them, and as I know I cannot do well thout your Meal—from past experience—I enclose £1 1s. for 1 cwt. mplete. which is what I used before with excellent results.—F. ASKINS.

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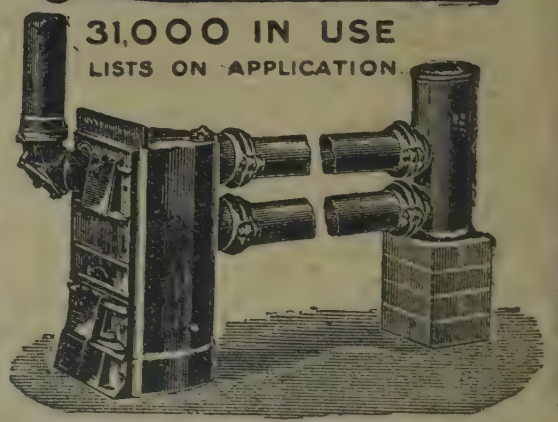

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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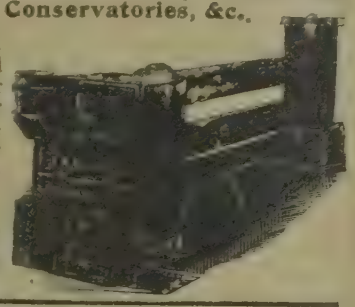

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	EACH.	DOZ.
3-year old bush trees	2/6	24/-
4 and 5-year old bush and pyramid trees	3/6	36/-
Standards 5 to 6ft. stems...	3/-	30/-

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The National Rose Society's Selections.
Bees' Rose trees are famously fibrous rooted; hard as whipcord.

Garden Roses
SELECTION "A."
24 best and most popular roses for general purposes.
A splendid assortment. **15/6** Carriage paid.
Caroline Testout (ht),sal.pk. 9d.
Earl of Warwick (ht),sal.rose 10d.
Ecarlate (ht), scarlet - - 10d.
Ethel Malcolm (ht),ivory w. 10d.
Frau Karl Druschki (hp),w. 10d.
GeorgeDickson (ht),deep cr. 10d.
G. C. Waud (ht),orange ver. 10d.
Gen. McArthur (ht), scarlet 10d.
Gus Grunerwald (ht),carm. 10d.
La France (ht), rose - - 9d.
La Tosca (ht), salmon flesh 10d.
Lady Pirrie (ht). apricot - 10d.
Lady Ashtown (ht),deep pk. 9d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. C. Lutaud (ht),yel.rose 1/-
Mme. Ed. Herriot, prawn red 10d.
Mme. Jules Grolez (ht),sil.rose 9d.
Mme. Melanie Soupert (ht),y. 10d.
Mme. Ravary (ht),orange yel. 9d.
Mme. Segond Weber (ht),sal. 10d.
Ophelia (ht), flesh pink - 10d.
Pharisaer (ht), rosy white - 10d.
Rayon d'Or (ab), yellow - 1/-
Richmond (ht), scarlet - 10d.

Fragrant Roses
SELECTION "D."
12 chosen chiefly for their abundant delicious scent.
Colouring gorgeous. **7/9** Carriage paid.
Alfred Colomb (hp), red - 8d.
Dupuy Jamain (hp), cerise 8d.
Earl of Gosford (ht),crimson 10d.
George Dickson (ht),vel.cri. 10d.
General Jacqueminot (hp),cr. 8d.
Gen. McArthur (ht),crimson 10d.
Juliet (hb),old gold and red 10d.
La France (ht), rose - - 9d.
Lady Alice Stanley (ht),pink 10d.
Mme. Ed. Herriot (per),red 10d.
Mrs. John Laing (hp),rosy pk. 8d.
Ulrich Brunner (hp),cher.red 8d.

Buttonhole Roses
SELECTION "F."
12 charmingly coloured and daintily formed in bud.
Last well when cut. **8/6** Carriage paid.
Harry Kirk (t), yellow - 10d.
Lady Hillingdon (t),apri.yel 10d.
Lady Roberts (t),reddish apri. 10d.
Liberty (t), velvety crimson 9d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Jean Dupuy (ht),rose 10d.
Melody (ht), saffron yellow 1/-
Mrs. A. Ward (ht), yellow 10d.
Mrs. G. Shawyer (ht), pink 10d.
Mrs. H. Stevens (t), white 10d.
Richmond (ht), scarlet - 10d.
Sunburst (ht),cadmium yel. 10d.

All Purposes Roses
SELECTION "K."
12 first-class sorts, suitable for general use.
Do well everywhere. **6/6** Carriage paid.
Betty (ht), coppery rose - 10d.
Caroline Testout (ht),sal.pink 9d.
Fisher Holmes (hp),cri.scar. 8d.
F. K. Druschki (hp), white 10d.
H. E. Richardson (ht),crim. 10d.
Hugh Dickson (hp),crimson 8d.
Lady Ashtown (hp),deep pk. 9d.
Lyons Rose (ht),shrimp pk. 10d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Ed. Herriot, red - 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. J. Laing (hp),rose pink 8d.

Gold Medal Roses
SELECTION "L."
12 newer sorts, all gold medallists but two.
Creme de la creme. **9/-** Carriage paid.
British Queen (ht),snowyw. 10d.
Dchs. of Wellington, yellow 1/-
GeorgeDickson (ht),deepcri. 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),coppery-sal. 10d.
Leslie Holland (ht),vermilion 10d.
Mabel Drew (ht), cream - 10d.
Mme. E. Herriot (per.)pr.red 10d.
M. de Sinety (ht),gold bronze 1/-
Mrs. A. Carnegie (ht),white 10d.
Rayon d'Or (per.), golden - 1/-
Willowmere (per.),coral pk. 10d.

Climbers, Ramblers
SELECTION "S."
6 roses suitable for trellis, pillars, arches, pergolas, &c.
All very vigorous. **4/9** Carriage paid.
Alberic Barbier (W.),yellow 11d.
American Pillar (cl.,P.),pink 11d.
Blush Rambler (cl.,P.),blush 11d.
Dorothy Perkins (W.), pink 11d.
Excelsa (W), bril. scarlet - 11d.
Hiawatha (cl.,P.), crim.wh. 11d.

BEDDING PLANTS
(Ex. strong transplanted bushy.)

	Doz.	100
Wallflowers, red -	*10d.*	*5/-*
" " yellow	*10d.*	*5/-*
Forget-me-not, blue	*1/-*	*6/-*
Canterbury Bells in sep. colours, white, rose, blue or mixed	*1/6*	*9/6*
Iceland Poppies, mxd.	*2/6*	*15/-*
Polyanthus, mxd. -	*2/6*	*15/-*
Sweet Williams:		
Pink Beauty Hybrids	*1/3*	*8/-*
Golden Alyssum -	*2/8*	*16/-*
Hardy Auriculas -	*3/-*	*20/-*
Purple Aubrietia, pots	*4/-*	*30/-*
Silvery Rockfoils -	*4/-*	*30/-*
Graecian Violet -	*4/-*	*30/-*

Exhibition Roses
SELECTION "B."
24 specially-selected varieties. Assured prize winners. **15/6** Carriage paid.
Avoca (ht). crimson scarlet 10d.
Bessie Brown (ht),creamy w. 10d.
British Queen (ht), white - 10d.
Chas. Lefebvre (hp),crimson 8d.
Coronation (hp), flesh pink 10d.
Dean Hole (ht), silvery rose 10d.
Earl of Gosford (ht),dk.crim. 10d.
Ethel Malcolm (ht),ivory w. 10d.
Gl. de C. Guinoisseau (hp),ver. 8d.
GeorgeDickson (ht),vel.crim. 10d.
Hugh Dickson (hp), crimson 8d.
J. B. Clarke (ht), crimson - 10d.
Jonkheer J.L. Mock (ht),car. 10d.
Leslie Holland (ht),scar.cri. 10d.
Mabel Drew (ht),canary yel. 10d.
Lyons Rose (ht),shrimp pink 10d.
Mrs. C. West (ht), shell pink 10d.
Mildred Grant (ht),tinted w. 10d.
Mrs. Amy Hammond (ht),ap. 10d.
Mrs. Andrew Carnegie (ht),w. 10d.
Mrs. John Laing (hp), rosypk. 8d.
Mrs. J. H. Welch (ht), pink 10d.
Mrs. Roosevelt (ht),pale flesh 10d.
Ulrich Brunner (hp),cher.red 8d.

Town Roses
SELECTION "E."
12 sorts proved suitable for growing in smoke.
Immensely successful. **7/9** Carriage paid.
Caroline Testout (ht),sal.pink 9d.
Dr. O'Donel Browne (ht),car. 10d.
F. K. Druschki (hp), white 10d.
George Dickson (ht), crim. 10d.
Gustave Grunerwald (ht),car. 10d.
J. B. Clark (ht),deep scarlet 10d.
La Tosca (ht),silvery pink - 10d.
Mme. Ed. Herriot (per),red 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. John Laing (hp),rose pk. 8d.
Mme. Isaac Pereire (b), car. 8d.
Ulrich Brunner (hp),cher.red 8d.

Dwarf Bedding Roses
SELECTION "I."
12 perpetual, free-flowering sorts, of bushy habit.
Surprisingly effective. **8/6** Carriage paid.
A. R. Goodwin (per.),sal.pink 10d.
Betty (ht), coppery rose - 10d.
Dchs. of Wellington, saffron 1/-
Ecarlate (ht), scarlet red - 10d.
Earl of Warwick (ht),sal.rose 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),apricot pink 10d.
Mme. Ed. Herriot, red - 10d.
Molly S. Crawford (t),white 10d.
Mrs. A. Ward (ht),Indian yel. 10d.
Rayon d'Or (hb),orange cad. 1/-
Richmond (ht), scarlet - 10d.

HARDY FRUIT
"Falstaff" Selection.
Best Sorts. **18/6** Strong trees. Carriage paid.
1 Bramley's Apple, cooker.
1 Lord Suffield Apple, cooker.
1 James Grieve Apple, dessert
1 Cox's Orange Pippin, dessert
1 Louise Bonne Pear, cook or eat.
1 The Czar Plum, cook or eat.
1 Victoria Plum, cook or eat.
1 Morello Cherry, cooker.
1 Loganberry, for tarts or jam.
4 Boskoop Giant Black Currant.
4 Whinham's Gooseberry.
12 Superlative Raspberry, best.
All are very free-bearing, hardy, thrifty sorts.

HARDY FLOWERS
Continuous display. **6/-** Carriage paid.

Alkanet, blue	Lupin, yellow.
M'mas Daisy, lil	Iris, rich blue.
Marguerite, white	Pyrethrum, 1½ft.
Larkspur, violet.	Fleabane, mauve
M'mas Daisy, ma.	Hybrid, C'mbine.
Dragon's-head, car.	Pink Knotweed.
Larkspur, blue	Avens, scarlet
M'mas Daisy, pk.	Catmint, lavender
Red Elecampane.	Blue Bellflower.
Scarlet Campion.	Blue Flax.
Blue Lupin.	Golden Marguerite
White Bellflower.	Mimulus, scarlet
Poppy, Pink.	Jacob's ladder
White Lupin	Speedwell, blue.
Gypsophila.	Double Pyrethrum

HARDY SHRUBS
"Hey Presto" Selection
Suitable towns' small gardens. **6/-** Carriage Paid.
Purple Speedwell, evergreen.
Double Gorse, yellow.
Sea Tamarisk, soft pink.
Spiræa, Anthony Waterer, red.
Spanish Broom, fragrant, yellow.
Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
Piptanthus, new, from China.
Giant Mock Orange, white.
Starry Daisy Bush, white.
Lavender, true fragrant sort.
Hardy Scotch Fuchsia, red.
Golden Forsythia, very choice.
May Broom, very pretty.

For Illustrations in Colour
and descriptions see Catalogue No. 58, issued last season. A few spare copies post free on request.

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175 c, MILL ST., LIVERPOOL

A.B.C. of Rose Culture, 2d.
Booklet of 32 pages; tells you all you are likely to want to know about roses. 2d. stamps with catalogue, order or alone.

Clay's gets there
and makes the Garden gay all the year round

CLAY'S LONDON FERTILIZER
TRADE MARK
EVERY GENUINE TIN, BAG & SEAL BEARS THIS TRADE MARK.

Sold everywhere for Horticultural purposes, in TINS at 6d. & 1/-, and in BRANDED & SEALED BAGS: 7lbs., 2/6; 14lbs., 4 6; 28lbs.. 7/6; 56lbs., 13/6; 112lbs., 24 -. Or direct from the Works, Carriage paid in the United Kingdom for Cash with Order (except 6d. TINS.) Quantities of 56lbs. and upwards are supplied in 28lb. bags.

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Royal Nurseries,

MAIDSTONE.

ROSES! IN ALL BEST AND POPULAR KINDS.

Weeping Standards, from 2/6 each; Standards and Half-Standards, 2/6 each. Bush, Climbing, Ramblers, Fairy or Polyantha Roses, China and Moss Roses, strong, 7/- 8/-, 9/- and 10/- per doz. Orders for 10/- and over carriage paid for cash with order. Fruit Trees, Bush Fruits, Evergreen and Flowering Shrubs, Oval-leafed Privet, etc.; Bulbs, Wall-flowers, etc. Catalogue and list free on application.

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COLLECTION "C" of GARDEN ROSES.

A REAL BARGAIN—comprising

24 Best Garden Roses, in dwarf plants, for continuous blooming, **18/6.**

C. F. Faure (H.P.)
Capt. Hayward (H.P.)
Caroline Testout (H.T.)
Charles Lefebvre (H.P.)
F. Holmes (H.P.)
Frau Karl Druschki (H.P.)
General Jacqueminot (H.P.)
General McArthur (H.T.)
Gloire de Chedane Guinoisseau (H.P.)
Hugh Dickson (H.P.)
Irish Fireflame (H.T.)
Jessie (D. Poly.)
Liberty (H.T.)
Madame A. Chatenay (H.T.)
Madame Herriot (P.)
Madame M. Soupert (H.T.)
Madame Ravary (H.T.)
Miss A. de Rothschild (H.T.)
Mrs. D. McKee (H.T.)
Mrs. John Laing (H.P.)
Rayon d'Or (P.)
Ulrich Brunner (H.T.)
Victor Hugo (H.P.)
Zephyrine Drouhin (B.)

N.B.—Any 6 H.P.'s and six of any other varieties supplied from this selection for **9/6.**

Fruit Trees of all kinds to select from. A grand stock of Shrubs and Ornamental Trees. Herbaceous Plants in great variety. Send for Catalogue No. 12, full of interesting information and cheap prices, post free on application to

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Dept. 2), Garden Specialists. **Southwell, Notts.**

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PERFECT PLANT FOODS UNRIVALLED FOR ALL GARDEN CROPS.

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CLEARING GROUND FOR FOOD CROPS.

TWO 1/- PARCELS FREE.

Twelve 1/- Parcels (or 20 at 6d.) for 10/-; Carriage Paid, Cash with order. (Carriage 6d. extra on Orders under 10/- value.)

All Bulbs guaranteed strong flowering, and of best quality; money back if not satisfied.

1.
20 Emperor Daffodils. 1s.
The finest of the well-known sorts, grandly-shaped and well-coloured flowers; does well indoors or out.

2.
20 Horsfieldi Daffodils, 1s.
Snowy-white petals; rich yellow trumpet; very handsome and early; borders or pots.

3.
25 Princeps Daffodils, 1s.
Primrose and gold; early flowering; specially recommended for borders and beds outdoors.

4.
25 Grandee Daffodils, 1s.
White and gold; a most graceful flower; very hardy; does remarkably well in shade.

5.
20 Golden Spur Daffs., 1s.
Glorious orange-gold shaded citron; most magnificent flower; quite unsurpassed.

6.
20 Sir Watkin Daffs., 1s.
Deep orange frilled trumpet, rich gold petals; a huge success everywhere indoors and out.

7.
35 Barri Narcissi, 1s.
Orange-scarlet cup, golden petals; light, graceful, free-flowering; splendid in fibre or soil.

8.
15 Double Yellow Daffs., 1s.
Huge double, golden-yellow, rose-shaped flowers; excellent all purposes.

9.
30 Double White Narciss., 1s.
Fragrant as a Gardenia; pure translucent white; blooms well into May.

10.
15 Victoria Daffodils, 1s.
A more magnificent flower than Empress; pure white petals, rich gold trumpet; indoors or out.

11
25 Langtry Narciss., 1s.
Dainty lemon yellow cup set in a beautiful star formed by six showy petals; exquisite indoors or out.

12.
20 Double Golden Phœnix, 1s.
The famous Butter and Eggs Daffodil; absolutely tip-top; very hardy and free.

THIS WEEK'S BARGAIN LOTS.
Carriage **5/-** paid.
100 Choice Tulips in 5 sorts.
Double quantity, 9/6, carriage paid.
200 Choice Daffs. and Narciss. in 5 sorts
Double quantity, 9/6, carriage paid.
FREE, 1/- Parcel Snowdrops or Bluebells with each 9/6 parcel, carriage paid.
All for cash with order only. Satisfaction guaranteed.

13.
40 Pheasant Eye Narciss., 1s.
Crimson, edged orange cup, purest white petals; flowers often 3 inches across.

14.
30 Ornatus Narcissus, 1s.
Vivid scarlet cup surrounded by snowy-white petals; first-class everywhere.

15.
4 Violet-scented Iris, 1s.
Rich velvety violet with orange throat; deliciously scented; does well indoors or out.

16.
24 St. Brigid Anemone, 1s.
Huge, semi-double flowers in all shades of blue, violet, scarlet, rose, white, etc.

17.
30 Golden Winter Aconite, 1s.
Rich buttercup-yellow with a dainty green ruffle; makes a fine edging.

18.
30 Bluebells (Scillas), 1s.
Do well in pots of soil or fibre; a great success under trees and in other shady places.

19.
25 Double Snowdrops, 1s.
Try these in pots of soil or fibre; they are exquisitely pretty when looked at closely.

20.
30 Single Snowdrops, 1s.
For planting as an edging to other bulbs, in beds, on graves, borders, &c.

21.
18 Golden Button Tulip, 1s.
Bouton d'Or is usually considered to be equal to that "rara avis" — a golden Darwin Tulip; a thing more to be desired than Dumas' Black Tulip.

22.
18 Caledonian Tulip, 1s.
Glowing orange scarlet; like a veritable flame; a gorgeous thing for bedding.

23.
18 Mixed Early Flowering Dutch Tulips, 1s.
These are very scarce indeed; fine for indoor culture in fibre or outdoor bedding.

24.
20 Clara Butt Tulip, 1s.
Most glorious pink, shaded salmon and silver; a huge success indoors and out.

25.
10 F. Sanders Tulip, 1s.
An incredibly dazzling shade of fiery scarlet; a most entrancing colour; huge size; perfect form.

26.
15 Tonnaye Tulip, 1s.
Rich cherry-rose, shaded blush, edged delicate pink, one of the most useful.

27.
15 Laurentia Tulip, 1s.
Deep rosy-pink, shaded carmine, with a startlingly rich blue centre; extra.

28.
12 Mrs. Cleveland Tulip, 1s.
Old lavender-rose, shaded lilac and silver; flowers early; large size and stately habit.

29.
25 Gold Crown Tulip, 1s.
Rich golden-yellow, shaded and flamed scarlet; fine bedding and borders.

30.
15 Gesneriana Major Tulip, 1s.
Brilliant glowing scarlet, dazzling blue centre; one of the most gorgeous of all Tulips.

31.
20 Sweet-scented Tulip, 1s.
T. macrospila has the fragrance of Sweet Peas and a fine crimson-scarlet colour.

32.
10 Inglescombe Yellow Tulip, 1s.
Perfection in form and colouring; deep canary yellow; magnificent.

33.
15 La Candeur Tulip, 1s.
Pure white; very scarce; fine for bedding borders, pots, &c.; good for cutting.

34.
15 Parisian Yellow Tulip, 1s.
Rich yellow; elegant flower; showy and reliable; beds, pots, borders, &c.

35.
20 Cottage Tulips, Mixed, 1s.
A very fine showy mixture, can be well recommended. Special price per 100, 4/6.

36.
15 Darwin Tulips, Mixed, 1s.
Includes a lot of fine art shades; very useful for cutting. Per 100, 6/6.

37.
50 Mixed Daffs. and Narciss., 1s.
Includes many handsome sorts, such as Emperor, Barri. Per 1,000, 18/-.

38.
1 Peck "Bulbost," 1s.
Bees' Famous Bulb Fibre Compost. Sent Carriage Paid with Bulbs of 10/- value.

39.
5lb. "Bulbilizer," 1s.
Bees' Special Bulb Manure, sent Carriage Paid with Bulbs of 10/- value.

HAND-PICKED SHALLOTS.
Ready now. 1lb. 1/2; 3½lbs. 3/-; 7lbs. 5/9
14lbs. **10/6,** carriage paid.
ONION SETS, **2/6** per lb., post free.

Bees Ltd

175c Mill St., LIVERPOOL

THE GARDEN.

No. 2401.—Vol. LXXXI.] [November 24, 1917.

NOTES OF THE WEEK

ON November 14, Mr. Prothero, the President of the Board of Agriculture and Fisheries, opened the new official seed-testing station for England and Wales at the Food Production Department, 70, Victoria Street, Westminster, London, S.W. The new station will supply a long-felt want, and it is difficult to understand why it was not instituted many years ago. The necessity for a laboratory of this kind was advocated in the *Kew Bulletin* at least two decades ago. Scotland and Ireland have had their stations for years, and it is upwards of forty years since seed-testing was established in Denmark and Saxony. The new station will prove a boon to farmers, gardeners, and to the seed trade in general. In opening the seed-testing station the President of the Board paid a high tribute to Mr. Lawrence Weaver, Director of Supplies, to whose energies and enterprise this new institution is mainly due.

"Real Value" of Seed.—While good seed is procurable in this country, there is evidence that there is much bad seed on sale, and the importance of a proper examination of seeds to ascertain their purity and germinating power is now generally recognised. The new station will avoid wasting money, time and labour on weeds and dead seeds. It is, perhaps, worth while pointing out the method of calculating the "real value" of seed. This is arrived at by multiplying the percentage of growing seeds by the percentage of pure seeds and dividing by 100. Thus, if the germinating capacity is 90 per cent. and the purity is 95 per cent., the true value is $90 \times 95 \div 100 = 85{\cdot}5$ per cent. It should be noted, however, that the value must also depend on the nature of the impurities which are present.

New Scottish Seed Trade Association.—A meeting of the members of the Scottish seed trade was held recently in the Corn Exchange business room, Gorgie, Edinburgh. The object of the meeting was to consider the position of the trade in view of Government Orders and other matters connected with the war. Mr. D. Bell, of Messrs. Bell and Bieberstedt, seed merchants, Leith, was in the chair. Among other points discussed was that of guarantee of purity and germination. After consideration of the various points involved, a committee of seven members was arranged to watch over the interests of the seed trade and to lay before the Government anything necessary to conserve its position.

Many-Seeded Apples.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. J. Fraser showed seeds taken from the varieties Duchess' Favourite, Winter

seeds in excess of the normal number, ten. Such excess number, up to twenty, appears to be fairly constant in some varieties, *e.g.*, American Mother, where four ovules in each carpel appear to be normal.

Potato Competition in Southampton.—Forty-nine members entered the Potato competition arranged by the Southampton Gardeners' Mutual Improvement Society, of whom eight retired and one was disqualified. Fourteen sets (1½lb.) were given to each competitor, the variety (Sir John Llewelyn), provided by Messrs. Toogood and Son, not being then known. The space to be occupied in the garden was 21 feet by 2 feet 6 inches. The forty competitors dug 1,870lb. of clean Potatoes, with an average of 46¾lb. per competitor. Two members tied for first place with 94lb. each, followed by one with 84lb.

New Potato Order: Compensation for Growers Who Sell Under £6 per Ton.—A general licence has been issued by the Food Controller permitting growers to sell their own Potatoes below the minimum price fixed by the Potato Order, 1917. A new Order—known as the Potatoes Order No. 2, 1917—is being made at once which provides, under certain conditions, for compensation to growers selling below the Government guaranteed price of £6. The new Order applies to all transactions on and after November 19, 1917, involving the sale of sound marketable ware Potatoes in lots of four tons or more by the grower.

THE NEW SEED-TESTING STATION OF THE BOARD OF AGRICULTURE.

Seed Potatoes.—While the 1¾ inch maximum obtains for 1918, the Food Production Leaflet No. 8 of the Board of Agriculture recommends a 2oz. average for seed. We have, however, seen good results from seed under 1oz. and even from ½oz. seed. So allotment holders and others need not break the law through fear that the smallness of the sets is inimical to cropping.

How to Prolong the Nerine or Guernsey Lily Season.—The notes on the above which are

by a free use of N. undulata and N. flexuosa alba as seed-bearing parents the flowering season of these beautiful autumn bloomers might be considerably prolonged. We know of some very pretty hybrids which have been obtained in this way. Where two low temperatures—one, of course, somewhat higher than the other—are available, it is not a very difficult matter to retard some of the usual varieties by cold frame or cold house treatment and grow them in a cool house to accelerate by a week or two the blooming of N. undulata and N. flexuosa alba, so that their periods of flowering may coincide. These hybrids come in very useful in the middle or the second half of November to prolong the season.

Saxifraga Fortunei.—This splendid Saxifrage deserves our gratitude, for it sends up its great cheerful clusters of silver blossoms in October when most things in the rock garden have fallen asleep. Being such a late bloomer, it should have a sheltered nook, one that is screened from the summer sun for preference. The handsome round leaves of a rich, glossy green disappear in winter, and the plant will not again show many signs of life until spring is over and the summer far spent. Then some autumn morning, when you have most likely forgotten all about it, S. Fortunei will greet you with a vision of the spring reborn. He is liable to be a sulky fellow, this Chinaman; but take no notice of him, and he will come round in time if you are careful to protect him from sunstroke.

The Green of the Rock Garden.—Although the flowers are daily becoming fewer, a fresh interest is afforded at this season by the new growth. In many of the Saxifrages this is particularly noticeable. They have cast off that pale, enduring expression with which they suffered "the heat and the thirst" of late summer, and are making cushions and mounds of a restful and charming verdure. The little Hypericums have spread abroad new fringes of delicate emerald, and Thymes are enmeshing the rocks with a clinging tracery of more redundant vigour, without so much as a thought for the wrath to come. Speedwells are making woolly mats of promise, and the exquisite little Arenaria balearica has at last discovered that the stones are cool and damp enough for its lace of green. Drabas are creeping into fresh territory, Silene acaulis swelling its cushions of pale green moss, and the greenery of distant Bamboos was never more refreshing. Even those plants and grasses which are variegated with white or yellow have all but lost their bloodless markings to join the others in an ardent

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

TULIP NOMENCLATURE REPORT.

I HAVE been gently chided by one of the Tulip Nomenclature Committee for having stated in my recent note that the names were not in alphabetical order in the Report. Notwithstanding your ample note in last week's issue, may I crave space for these few lines? At the time I wrote I only glanced at the names of the varieties and, finding them out of alphabetical order, I commented thereon. I have now had the opportunity of perusing the list of varieties at the end of the Report, and I desire to tender my sincere apologies to the compilers of this admirable work, and to Messrs. Bowles and Titchmarsh in particular, for the slip I made. I appreciate the great amount of time and thought they gave to the task, and I am sure all lovers of the Tulip will agree that they have produced a work which is indispensable. —B., *Weybridge.*

DOUBLE ESCHSCHOLZIAS.

WE are much interested in the notes on the so-called *new* double-flowered Eschscholzia. This we have grown for many years, and the result of our continued selections is a much-improved strain, both of the white and orange flowered varieties, which latter may be described as almost like a Maréchal Niel Rose. These beautiful and early grown annuals are certainly deserving of a wide popularity.—WATKINS AND SIMPSON, LIMITED.

THE DARWINS.

MY friend the Rev. Joseph Jacob, in THE GARDEN of September 22, has recalled most pleasing recollections of that gathering of the Horticultural Club in 1908 when I was invited to say something about the origin of the Darwin Tulips. On the morning of the same day I had been informed that the invitation for the lecture would include an interview on this subject, and as the interviewers seemed to expect information of commercial value, or at least to hear something never before published, I decided to answer all questions proposed without touching the question of origin. Well, no raiser of new varieties can be expected to tell how he obtained them before such knowledge has become a matter of academical interest only, and this, evidently, was also the opinion of the much-regretted Mr. Druery, who after the meeting said to me: "You have replied just as an Englishman would have done." Of course, I always felt very proud of this testimonial until I now see from Mr. Jacob's "Tittle-Tattle" that the question asked me nearly ten years ago did not refer to the origin of the Darwin varieties, but only had the object of discovering where my father found the original collection of these Tulips. There is no mystery at all, and Mr. Jacob need not have listened to that "little bird when in Haarlem in pre-war times," for my father has never kept secret the name of the French Tulip amateur who sold him his Tulip collection, and the name of M. Jules Lenglart of Lille was mentioned in those days in several horticultural papers. In the dear old GARDEN of Mr. Robinson's days my father's purchase was mentioned in the issue of May 22, 1886, page 465, where the first reference was made to these Tulips "bought last year at Lille from M. Jules Lenglart." And when I furnished an article accompanying coloured plate No. 939 in THE GARDEN of December 9, 1893, I said about the Darwin Tulips: "They originated mostly in French Flanders, which for a rather long time has been the centre of amateur Tulip culture. The last amateur collection to be found in that country, being one of the most renowned ones, was purchased by our firm." Similar statements are to be found in many notes on Darwin Tulips, and I certainly should not have thought that these facts would have escaped the attention of Mr. Jacob, who is more familiar with Tulip literature and history of all periods than perhaps any other living man in the world.—ERNST H. KRELAGE, *Haarlem.*

THE WILLOW-LEAVED VERONICA.

IN the editorial note to Mr. Arthur Goodwin's letter on page 482 "the fragrant spiky racemes of the Willow-leaved Veronica" are mentioned as blooming at this season. I cannot help thinking that the species referred to is not Veronica salicifolia, but V. parviflora. These two shrubs are often confounded with each other, being very similar in foliage and habit, but very different in their flowers. More than forty years ago I received a plant under the name of V. salicifolia, and it was not until I saw the true V. salicifolia at Mount Usher some years later that I realised the difference between the two species. The flower racemes of V. salicifolia are considerably longer than those of V. parviflora and hang vertically; whereas those of V. parviflora stand out horizontally and answer the description of "spiky." Moreover, V. salicifolia flowers in July and has done with it; whereas V. parviflora continues to bloom on different plants all through the autumn. Both are highly desirable shrubs, but V. salicifolia is far the more beautiful when in bloom.—HERBERT MAXWELL, *Monreith.*

[It is not surprising that Sir Herbert Maxwell should suspect that it was Veronica parviflora sent by our correspondent, because, as he says, it naturally flowers throughout autumn, and, we might add, in the depth of winter, for we have known Mr. T. Smith's winter-flowering form hyemalis to do so. But to clear up this interesting point we have obtained a fresh supply of flowers from our correspondent and submitted them to Mr. Irving at Kew, and he identifies them as one of the late-flowering hybrids of V. salicifolia. Mr. Irving adds: "This plant has the habit and leaves of V. salicifolia, and only differs from the species in the time of flowering."—ED.]

FLAVOUR IN APPLES AND PEARS.

AFTER sending my note (THE GARDEN, November 10, page 479) I suspected I might find myself in disgrace in THE GARDEN, and on reading Mr. Bunyard's commendation of Conference Pear in the same issue I felt sure of it, and though only an(ne) *Amateur*, at once wrote to him, metaphorically challenging him to "coffee and pistols for two" in a less observed spot than THE GARDEN. This, being a *professional* expert, he nobly declined, and most magnanimously proffered the Olive branch, which I reluctantly accepted so far as to own I wished I had instanced Dr. Jules Guyot instead of Conference. (Shall I get into further trouble for this?) *But, re* Cox's Orange Pippin, I stick to my guns. (How up to date for an old maid in a country cottage!) Though they have not the hardihood (or foolhardiness?) to say so openly, I know several private connoisseurs of Apples who think as I do, albeit non-smokers like myself (though, "F. H. C.," several of my younger women friends *do* smoke, and, theoretically, I hold that women's nerves need soothing quite as much (do). "F. H. C." is rather greedy in demanding *six* choicer Apples than Cox's, and must be content with the "reduced ration" of five, to wit: (1) *American Mother.* I am glad he grants this is a good Apple, for it is my favourite, so here *my* "extraordinary and peculiar taste" agrees with *his* "good judgment." (2) An English-grown *Ribston* (methinks I have him here also!). I was glad to see this Apple so well shown at the Royal Horticultural Society's Fruit Show recently. It grew in great perfection in our Surbiton garden in the seventies. Also, when well grown, (3) *James Grieve.* This is described by some as practically an earlier Cox's. (4) The old *Sussex Forges*, an all-round good Apple (though on the small side for cooking). I had quite two bushels, among the eight from my ancient Apple tree this year, superior to the one poor little plateful I saw at the Fruit Show. Also at Surbiton we had a very choice little dessert Apple, firm-fleshed, fruity and *nutty* in flavour, red-skinned, with white dots. From this description Mr. Bunyard identified it as *Reinette Rouge Etoilée*, and in his catalogue, by a droll coincidence, calls it "*an amateur's* fruit."—ANNE AMATEUR.

COLOUR DESCRIPTION.

I NOTE that Sir Herbert Maxwell admits that "the definition of colour in flowers is the reverse of satisfactory," but he goes on to state that he "does not see much chance of improvement, colour being both subjective and relative, and that there is no such thing as objective colour, any more than there is objective sweetness, saltness or sourness." Although it is true that *all* we perceive is through the agency of our senses with their varying limitations, and our perception of the universe is subjective and relative, yet the fact remains that the central *blue of the spectrum holds as definite a place in the colour scale as the note A holds in the musical scale and as 32° Fahr. holds in the scale of temperature.*

In the medical world a failure to distinguish the difference between a temperature of 98° and, say, 103° in a patient might be the cause of death. The failure to distinguish the colour of a signal at night might be the cause of a railway disaster. The presence of poisons is revealed by spectrum analysis. Each substance when brought to a high temperature gives out its own peculiar light, yielding bands which never differ or vary in their position in the spectrum by so much as one-thousandth of an inch. One of these bands denoting the presence of a poison would afford sufficient evidence to send a criminal to the gallows!

It is surely a great tribute to the senses we are gifted with that we are able to measure the length of the waves of light that travel to us from the sun and the remote stars at the rate of 185,000 miles a second, and to know that it takes 64,631 violet waves placed end to end to span an inch.

Our five senses serve us very well, and we have a normal standard that we take as our guide. A cook who was such a poor judge of temperature that she made tea before the water boiled, or who possessed an abnormal idea of what was sweet, sour or salt, would not retain her place long; and a man with a palate of this sort would not make his fortune as a buyer of Burgundy. A violinist or a bell-founder who could not distinguish A *flat* from A *natural* would not earn a handsome living even if he escaped a violent death. An artist who persisted in representing an azure mid-day sky as mauve would, I trust, soon have to take up another profession. We differ in our

beauty, but a flush of crimson on the nose instead of the cheek, anything abnormal in colour and form, or in the nature of a deformity, however slight, is repugnant, not only to the sculptor, but to all, for our conception is here coupled with the race instinct. Although our knowledge is subjective and relative, this must not be allowed to form a plea for inaccuracy. The question raised was not one of inability to define what is indefinable, but to define what is definable correctly.

Another point which should not be lost sight of is that *colour discords and harmonies depend not only on the colours associated, but on the proportions in which they are used.* In the simplest hymn tune or chant a chord is often met with which, if isolated, would sound discordant, but when associated with those which immediately precede it and those which follow, sounds harmonic. It is the same with combinations of colour which we meet with even in the same flower.

In the blossom of the scarlet Cactus, for example, we have a suffusion of purple which is a discord, but when combined with a touch of white and emerald, as it is, so perfectly are the vivid colours balanced and proportioned that the strange purple tinge only serves to intensify the effect of the preponderating mass of the scarlet. It may perhaps be regarded as an example of Wagnerism in colour harmony! If this beautiful balance of colour did not exist, a clean sweep might be made of thousands of denizens of the flower garden.

In Japan colour combinations have been studied for nine centuries or more, but there is a great need for a closer study of them in England. In proof of this I regret to record that during the past summer and the two previous ones a gentleman near me who resides in a modern red-brick villa fills his window-boxes with scarlet Geraniums. Beneath his windows he beds out with scarlet Geraniums of another shade, placed between yellow Calceolarias under pink and crimson Roses! Let us, for a moment only, carry this colour scheme indoors. On the table we will place a terra-cotta cloth, and in the centre of it a scarlet mat. Upon this we will place a yellow vase containing crimson Roses. Such a parlour should be difficult to let, even to those anxious to escape from the vagaries of a "sky barrage," though the colour is only subjective. Why should such abominations be tolerated in the gardens of those who would not tolerate them in their dress or in the decoration of their houses? It has the same distracting effect on the eye as a piano has on the ear when performed upon by a baby with both little dimpled fists. Though any prolonged visit to such houses and gardens would be distressing, it would be charitable to regard them in the light of these discords, which make what comes before and after all the sweeter. How delightful do our own artistic homes appear after staying in some seaside lodging-house!

In the garden, as in the orchestra, we have all the individual instruments for the production of a fine harmony; but have not many of our mixed borders and *conservatories* been left in the tuning-up stage? Do they not rather suggest the baby fist rather than the skilled musician? Some of the Tulips so lately described in THE GARDEN indeed represent *chords* of colour as exquisite and as difficult to analyse as an orchestral harmony; but the arrangement of chords requires even greater skill than the arrangement of single notes.

The law governing colour combinations is no man-made law, but a *Divine* one, such as that which governs musical harmony. Man only *discovers* it. Some are able to appreciate the

become our guides and teachers, to train our ears and eyes to a greater knowledge and appreciation of the beauties and wonders with which we are surrounded.—H. H. WARNER.

THE SCARCITY OF BIRD LIFE.

NOT the least noticeable feature of the year in most gardens has been the scarcity of birds. So terrible was the destruction of our feathered companions by the frost that there was scarcely any spring song, and now that the summer birds have gone, the copses are almost untenanted and the autumn evening more silent than in midwinter. Not once this season have I heard that sweetest of all garden sounds—the robin's soliloquy of peace in the darkening shrubbery. But apart from the sentiment of the thing, there is the menace of insect vermin. We have had a plague of pests probably never before equalled, and, their natural enemies having been so reduced, most of these creatures have made preparations for abundant families next year. It is therefore incumbent upon all of us to do as much as lies in our power to preserve through the coming winter what bird life remains, especially the insectivorous species. We can do this in many ways, viz., (1) by feeding in hard weather; (2) by destroying or checking the ravages by bird-eating cats; (3) by keeping an eye on sparrow clubs, which often destroy the useful little hedge-sparrow and other invaluable insect-eaters; (4) by protecting the starling from the loafing gunner and trap-shooter; (5) by supporting the good work done by the Royal Society for the Protection of Birds. Unfortunately, a winter which spells hardship and death to insectivorous and many seed-eating species means a feast to the sparrow-hawk. This bloodthirsty villain has done remarkably well the last twelve months, and he is inordinately fond of tits, hedge-sparrows and other useful birds. He is more common to-day in many places than he has been for years, and a reduction in his numbers should be included in the above suggestions.—A. T. JOHNSON.

*** *Readers who have not already done so are asked to order* THE GARDEN *to be delivered regularly by their newsagent. The Board of Trade prohibit the return of unsold copies of any journal to publishers, and in consequence* THE

Some Potatoes, Old and New

I HAVE this year tried eighteen different varieties, including some of the newer ones, from the standpoint of comparative quality, productiveness and resistance to disease: this for the purpose of selection of fewer varieties for next season's planting. Of course, the following results are those arising in my own soil, a fairly stiff loam. For a first-early

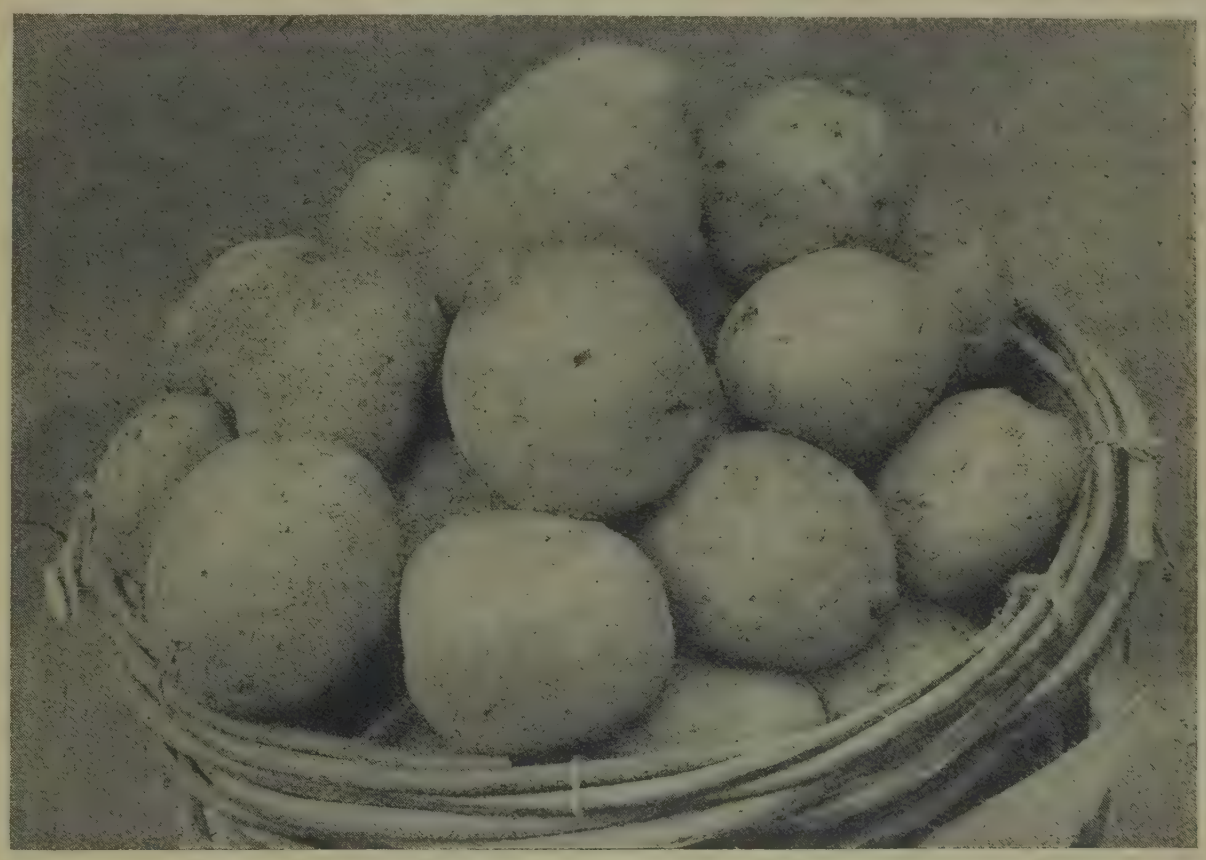
Harbinger seems the best, the tubers even in size, and of very good cooking quality from the first. Practically, although not sprayed, there was no disease.

Dunnottar Castle.—Excellent in quality and a great cropper; no disease, but, *per contra*, very irregular in size. Nevertheless, to be tried again.

Eclipse.—Well known, excellent.

Sharpe's Express.—The same, and, if kept long enough, cooks like a ball of flour.

Windsor Castle.—Absolutely first class in every way and a surprising cropper, nine sets, weighing 11lb., producing 91lb. of Potatoes.



POTATO PROSPERITY, A GOOD CROPPER OF EXCELLENT QUALITY.

Gordon Castle.—I fully confirm the report of "E. M." and the editorial note thereto appended (page 479). I have obtained a better result than that stated in the note, for seventy-five sets, weighing 7lb., gave me 161lb. of Potatoes, almost all of perfect table size, and absolutely no disease.

Drummond Castle.—It is too soon to judge of the cooking quality as a late Potato, but in size of tuber and productiveness it is all that can be desired. No disease.

Abundance.—Well known, and with me fully sustains its good reputation. Size of tubers very good and level. No disease.

Superlative.—Also good, but, like Dunnottar Castle, the size of the tubers very irregular. One weighed 1½lb. and several 1lb. 5oz. Very little disease.

Webb's Prosperity.—A good cropper, nearly all tubers of a good table size. Good quality, scarcely any disease.

Early Puritan will have another trial, as, when kept long enough, its table quality is very good. Up-to-Date, Myatt's Ashleaf and the

The tubers of most sorts were gently sprouted. All the second-early and late varieties were sprayed twice, and in consequence of the abundant quantity of the haulm two men had to be employed in order to get under the leaves, one to bunch up the haulm and the other to spray. In the South of England I think the spraying should commence in the third week of June instead of early in July, as often advised.

Foots Cray, Kent. CHARLES E. SHEA.

NOTES ON TOMATOES

A GIANT SEEDLING—FEATS OF CULTIVATION—CROPPING THE SIDE GROWTHS—PROMISING VARIETIES FOR THE OPEN AIR.

WITH reference to the query in the issue of the 27th ult. for a good variety of Tomato for outdoor cultivation, I think I can claim to have such a one in my possession at the present time, and the following particulars may be of interest to your numerous readers.

In May last, on one of my outside Vine borders a stray self-sown Tomato plant sprang up, and when the plant had attained a height of some 9 inches to 12 inches, the head was somehow broken off and side shoots developed. The plant was practically neglected until the end of July,

IPSWICH GIANT TOMATO PLANT.

A self-sown plant with eight branches bearing thirty matured trusses of fruit and numerous spikes of bloom when photographed.

when on inspection I found it resembled a huge bush. I then trimmed up the plant and placed stakes around it, and when fully developed the plant had no fewer than eight branches and over thirty matured bunches of fruit, averaging seven fruits to the pound, besides several smaller trusses. Another remarkable point was the uniform size, colour and perfect shape of the fruits of each bunch on the entire plant.

No special attention was given to the plant during its period of growth; in fact, it received only three artificial waterings during that time. I submitted some of the fruits to Mr. R. Holmes of Norwich, who considered them very fine.

If this plant had been raised in the ordinary way and properly attended to, no doubt the results would have been still more astonishing; and to anyone requiring a thoroughly good outdoor variety of fine colour, flavour, and a good cropper, the one in question will take some beating. At present the stock is, of course, small, but I hope a limited quantity of seed will be available during the ensuing season through the usual trade channels for anyone wishing to give it a trial.

Holmwood Gardens, Ipswich. THOMAS SAVAGE.

WHEN man is considered in the light of evolution, it is proved that the fittest arose not from choice so much as from compulsion. It is declared that our ancestors migrated from the open steppe into forest-clad Europe, and that pasturage became scarce. Open land was limited, and it must be cultivated by them, or there was no option but starvation. Many starved, but many learned to till the soil. The spur of necessity is the best teacher. History repeats itself—it has a knack of doing so. War conditions these days, with a threatened scarcity of foodstuffs, have given us a clever class of cultivator, of whom Mr. Clarence Ponting appears to be a worthy representative. Necessity has driven him to perform wonderful feats in the cultivation of vegetables, and I have been intensely interested in a study of his methods. His experiences with outdoor Tomatoes (issue November 10, page 487)) are a landmark in the history of horticultural evolution.

Hats off to the man who can successfully keep a panful of young Tomato seedlings in a cold frame from the middle of March onwards—especially in such a March as the last. The Tomato must be a much hardier plant than most of us imagine. All honour to the man who can—even with bedroom slops—in a wet month like last August produce fruits weighing two to the pound and seventeen to the cluster from plants so raised. A great peer once stated that necessity bred genius, and it is good to know that Mr. Clarence Ponting has overcome so many difficulties. He is a worthy descendant of our ancestors who first began to cultivate land for the production of food, and starvation can surely never overtake Britain when such men as he are alive.

Edinburgh. GEORGE M. TAYLOR.

A VARIETY likely to meet the need expressed in the note from "S. E. D. T." on page 454 will be found in Cooper's First Crop, a new-comer to our garden, but one which has done exceedingly well during late summer and throughout the autumn; and although not found in many retail seedsmen's lists, I have good reason to believe it is largely grown by market men. It is sent out by Messrs. Cooper, Taber and Co., Southwark Street, S.E. Judging from its behaviour here, I think it is quite worthy of the name it carries, and, in addition to the early ripening of the fruit, the fact that it makes but little foliage is another point which will commend it to those whose gardens are small and who rely on the outdoor plants for their crop. We had it growing in the open garden, against a low greenhouse, also in pots outdoors and under glass, and in every case the crops were most satisfactory.

Many plants carried six or eight trusses of fruit. Some of these trusses numbered over a dozen, but from eight to ten was the rule. In nearly every instance the first truss of fruit set so low down the plant as to rest upon the soil, one, carrying seven large trusses of fruit, being only a trifle over 4 feet high. The bunches are quite distinct from those found on many of the most recent introductions, having only a very short stem, and so compact that no tying up to prevent damage is needed. The fruits are of a beautiful light red colour, and if liberally treated with manures are of exceptionally sweet flavour; but I noted the fruits upon plants left to themselves were deficient in flavour, this being accounted for by the unusually heavy rainfall in August.

Oxford. F. R. CASTLE.

SIDE GROWTHS FOR WINTER FRUITING.

THE following system of treating the Tomato under glass may be of interest and benefit to some readers. It is really a prolongation or extension of the life of old-established plants. Pot-grown or border-grown plants can be so treated, provided they have been healthily grown. Before the plants quite finish their allotted fruiting, encourage a fresh break of growth from near the bottom, tying it to the old stem for first support. At the same time gradually do away with the old foliage from the bottom of the parent fruiting stem, so that the young growth may be better encouraged; and finally cut away the old stem after the fruit has been cleared. With me several old plants in pots have young growths on them varying in length from 1 foot to 3 feet 6 inches. After the old stems have been cut away, further inducement can be given the young growth by top-dressing, and in a minimum of time, owing to the strength of the newly made stem, fresh trusses of flowers will show. These plants, which in the usual way of Tomato growing are thrown out, will now go on growing and fruiting throughout the winter. There is also a saving of labour in this method, such as the raising and potting on of young plants—an important item in many places to-day.

Ampthill, Beds. C. TURNER.

BIDE'S RECRUIT.

THE Tomato represented in the illustration on page 505 is the new variety Recruit, introduced by Messrs. S. Bide and Sons of Farnham. I have grown it with four other varieties this year,

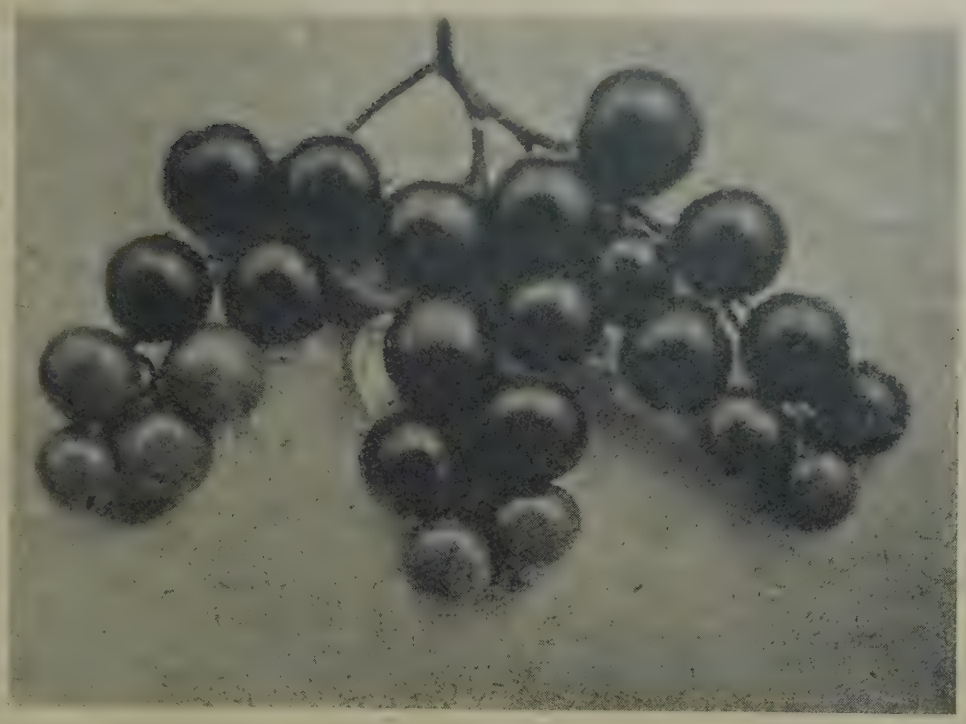
and Recruit has proved the best both as regards yield and quality of fruit.

In order to test the merits of this variety I have carefully weighed all fruits as gathered. From twenty-one plants I have gathered 346lb. of fruit, being an average of 16½lb. per plant, which was 2½lb. per plant above the yield of any of the other varieties grown.

The fruit—which is of excellent quality, medium size, of good shape and colour—is produced on long branching sprays. The bunch represented in the illustration is by no means the largest bunch I have had, but it shows the type of fruit and bunch better than any other I could select at the time. I consider this one of the best Tomatoes in cultivation, well worth a trial by all Tomato growers, whether for market or private use.

W. R. CATT.

Hodnet Hall Gardens, Market Drayton.



A BUNCH OF THE NEW VARIETY RECRUIT.

Sugar Beet Syrup: Our Latest Experiment

MRS. "BUSY BEE" begs me to say, "Don't be in too much haste to 'prick the Sugar Beet bubble.'" She has just made a second lot of spiced Apple conserve (see THE GARDEN, September 8, page 377. The first was liked so well that it is just at an end. It was a great help when we could get neither butter nor margarine one week). *This* time Mrs. "Busy Bee" washed and pared the Sugar Beet like Potatoes, and then sliced them straight into the water they were to be cooked in, and simmered them in a china gourmet pot in the oven, keeping them just covered with water all the time. The result was a thick brown treacle-like syrup *without the Mangel flavour*, which Mrs. "Busy Bee" thinks is chiefly in the *outer* skin, and that the mistake hitherto made has been in cooking Sugar Beet like Beetroot. She thinks this syrup may also be useful for puddings and stewed and bottled fruits, but not for use in tea and coffee.

ANNE AMATEUR.

A POTATO EXPERIMENT

LIKE most patriotic souls, I felt it incumbent upon me to do something to meet the Government's appeal to grow increased food in the season just gone. It was difficult to keep things going with a staff of trained men; how could one expect to do more with untrained labour? However, we managed, and in addition to certain early crops that were set going, a hard frost in January allowed me to utilise the services of an ex-soldier, an ex-groom and a schoolboy to turn up a piece of grass land planted with Daffodils preparatory to a crop of Potatoes. The results were nothing startling *qua* results. Still, the details of the experiment may be helpful to those similarly circumstanced. There was no time to lift the Daffodils, which were turned upside down into the bottom of the trenches along with the turf, a full spit of the under layer of soil being superimposed thereupon. I then got seed of Arran Chief and of Golden Wonder Potatoes, and as soon as the soil was in workable condition had it planted by women who had never before planted Potatoes. The seed of Arran Chief was fairly good; that of Golden Wonder so small as to require only 7cwt. to plant an acre, and, moreover, had had all the growths rubbed off before it came to me. Growth was not seen till June, probably on account of the frozen turf keeping the soil cold, probably also because the sets were planted 7 inches deep. The ground was forked up in April mainly to clear it of "quick" and of any Daffodils that survived. I intended to have manured the ground once growth appeared, but, surprising as it may seem, it was so rapid and exuberant that there was only time to roughly hoe the ground and then draw earth to the haulm before it got out of bounds. So no manure was applied. As usual, a kind of blight withered the foliage in September, but the stems were unaffected, and from past experience I knew the tubers would not be touched, so the crop was not lifted till mature—in October. Arran Chief lifted fully 15 tons to the acre, large tubers, few small, and no disease; Golden Wonder, about 10 tons to the acre, not counting the few small ones, the tubers averaging 6oz. each, and no disease.

A TOMATO PLANT SHOWING SIDE SHOOT IN FLOWER AND SUITABLE FOR WINTER FRUITING.

Though there is nothing wonderful about the crop, to me it was a revelation, and for the following reasons: The seed mostly was under the prescribed 1¾ inch size, and it scarcely needs me to assure the reader that I had little confidence in its productiveness. Then, the depth the seed was planted was abnormal; while a farmer informed me that the Potatoes were planted two months earlier than the proper time. But it was a case of plant now or plant never! The condition of the soil—light naturally, and innocent of an acquaintance with manure of any kind for at least a quarter of a century—was also quite against preconceived notions; and, finally, the crop was a good average for the varieties. I intended to have distributed the crop at lifting, but the Food Controller's "No!" caused it to be pitted, and meanwhile my endeavour has borne little fruit.

I hear that Dunnottar Castle is spoken well of as an early, as well as a great cropper of good eating quality.

Prestonkirk, N.B. R. P. BROTHERSTON.

THE CATALPA TREE

I WAS much interested in reading "H. C.'s" article in the issue of September 22 regarding Catalpa bignonioides, but little did I think then that I should soon come across it out here, for, until we moved to the part we are now on, it was a great thing to see a living tree, and great was my joy when we moved from that sector and travelled through country that had not seen the horrors of war. It is difficult for one who has not been out into desolation to realise what the feeling of joy is like to be back into a land that is clothed with living things. And never shall I forget that day. I had to go to a château on business in the latter part of October. I am always looking for good things from a horticultural point of view, and it gave me great pleasure to see the Indian Bean Tree, which was fruiting well, and of a height of quite 20 feet. I stopped in astonishment when I found what I had stumbled upon, and great was the amusement of my friend at the enthusiasm that I showed in finding, as I told him, a treasure. I was sorry that there was nothing else of interest there; but I returned to camp with the knowledge that I had again found a dear friend, though I am sorry to say they have been so few.—18591 Private F. C. WILLIE, *Army Ordnance Corps, c/o D.A.D.O.S., 59th Division, B.E.F., France.*

CODLINS, PIPPINS & OTHER MATTERS

BY E. A. BUNYARD, F.L.S..

THE question "What is a Codlin or a Pippin?" is one that the pomologist is often asked, and it is by no means easy to answer. These class names have been given with so little discrimination that in most cases they no longer retain any value. Properly used, however, they should be of great service in grouping the different classes, and in most plants which have produced a large number of varieties we see an attempt made to provide such groups; for instance, in the recent Classification of the Tulips, and in the arrangement of the Iris germanica forms which we are promised. It may be of interest, therefore, to describe the origin of the names used in the Apples, and so attempt to limit their application in some measure.

Codlins.—This is perhaps the oldest class of Apples, and it is one that most people recognise, denoting as it does a green and generally greasy fruit used for cooking. I have found it in an early cookery book so far back as 1440, and the variants of spelling—"querdlyng," "quodlyng" and "quadling"—are probably corruptions. The Oxford Dictionary is a little cautious as to its origin, giving the Irish "cueirt," Apple, as a probable source. To coddle or caudle may perhaps be mentioned as derived from the Latin "calidus." In parentheses one wonders why Epilobium hirsutum should be "Codlin and Cream." The English Codlin is probably the oldest member of the family, and is sometimes found in old gardens. It roots from cuttings, and this was probably the usual way to propagate it, if one may judge from the old writers. Such trees are always very dwarf in habit, and it was from them that the idea of using dwarfing or Paradise stocks originated. The use of the word "Codlin" has, however, on the whole been much more accurate than in other cases, and it might well be still kept for the green cooking fruits.

Pippins.—This word comes obviously from the French "Pepin," and should thus only denote that the fruit is a seedling. Falstaff refers with pride to a "last year's Pippin of my own grafting." (Is there, one wonders, a learned treatise on Falstaff as a gardener?) In the seventeenth century the word was used as denoting seedlings, and this has continued to the present day, so that it has no real value as describing a class, and is one which in the interests of brevity might well be dropped.

Pearmains.—The origin of this word has exercised the ingenuity of many pomologists, and Dr. Hogg sought its origin in "Great Pear Apple," Pyrus Magnus—Pearmain, on the analogy of Carolus Magnus—Charlemagne. This ingenious attempt is, however, swept away by the authors of the Oxford Dictionary, who give it as from Parma—Latin: "Parmanus." However this may be, we can trace the word back to the twelfth century in France, and it was applied to a fruit very like our Pearmains of the present day. A Pearmain should be of conical form, red skinned with russet, and a fruit of good quality. Adam's Pearmain might well serve as a type.

Queenings.—Here again we have a word which has exercised the wits of students. Dr. Hogg would have it from "quoining" or "coin," an angle or corner. This, however, on pomological evidence seems unlikely. If the old Queening was a fruit which showed ribs or angles in a very marked degree, or more so than other fruits, it might stand; but this is not so. Many of the Codlins are much more angular. Modern authorities derive it from the diminutive of "queen," in the same way as the French-made "Reinette."

Reinettes.—This is also a very old word, and can be traced back to the sixteenth century at least. Probably the oldest representative is the Reinette Sauvage, a cider variety known in Normandy for many centuries. Of this class Cox's Orange Pippin is a type, and, in fact, all the best fruits come under this heading. Some authorities have seen in this class the influence of Malus dasycarpa, and it is certainly characteristic of the best Apples to have dark leaves with dense wool underneath, though there are, of course, a few exceptions.

Calvilles.—This word is probably derived from Caleville, a commune in the Department of the Eure, France. It is first met with in the remarkable catalogue of fruits published by Le Lectier in 1628. It is always used in France for those markedly ribbed fruits of which Calville Blanc may be taken as a typical representative. As was mentioned before, the value of these divisions has been greatly spoilt by their incorrect use; for example, Grange's Pearmain is not a Pearmain at all, and Calville Rouge Précoce not a Calville.

THREE TYPES OF APPLES REPRESENTED BY WHITE NONPAREIL, ADAM'S PEARMAIN AND CALVILLE BLANC.

A RETROSPECT OF THE APPLE CROP

THAT the Apple crop has been an unprecedented one no one will deny, as there were few localities in which the yield was below the average. The growing of certain varieties—like Blenheim Orange, for example—that do not require so much sugar as some sorts should be encouraged in the near future. Never before have I seen the colour so fully developed; this was no doubt owing to the continued moist weather experienced during August and September, when but few dry days were registered.

A season like the past cannot fail to be educational in the matter of variety to intending planters, and no doubt these will increase in the near future, as Apples are all the while becoming more and more a recognised food. In the past there has been, and during the future there will be, no doubt, many selections of "best" sorts. My advice to intending planters is to ascertain local requirements before deciding upon any selection, and plant in quantity trees of approved varieties, so that a bulk of desirable fruit can be assured when required.

Dessert varieties probably make the most money, and where this is so they should be encouraged. Mr. Gladstone as an extra early variety is popular, but not so much so as Devonshire Quarrenden, which during the late season made high prices. In standard form this variety succeeds best, requiring space for extended growth to obtain the largest crops. The most popular of all Apples in any section is, in my opinion, Worcester Pearmain; its brilliant colour is so attractive. So many, too, appreciate the firm flesh, which is full of juice. As standards or bushes this Apple grows successfully in almost any soil under reasonable cultivation. Lady Sudeley is very attractive in its brilliant colouring, but too quickly goes "mealy," which is a fault. A great future is

in front of the Scotch Apple James Grieve. This crops enormously, even on small trees. The fruit is not too large, has a pleasing flavour, and is in use at the end of September and early October. To counteract the strain on the tree by its heavy cropping tendency, abundant manurial aid should be given. St. Everard is a somewhat new variety which has one point of great excellence—flavour, which is important, and may be described as an early "Cox," being a cross between that variety and Margil, and one that I advise being largely planted. The fruit is in season in September and October. Where it succeeds, King of the Pippins is popular. No variety crops better; the fruit keeps well and sells in a like manner. It may be grown either as a standard or a bush. Allington Pippin has many points to recommend it. It is free in growth, crops heavily, the fruit is attractive, always sells well, and keeps some time, improving in appearance during November. Cox's Orange Pippin has probably done better this year than ever before. The crops have been especially heavy, free from scab, of high colour, and not too large, which is a gain. The trees, too, have not suffered nearly so much from canker in heavy soil as in some seasons. No Apple fetches the price this does. With care the fruit can quite easily be kept until March. An Apple that is rapidly taking a prominent place is Ben's Red, an exceptionally richly coloured fruit of medium size, somewhat resembling Quarrenden in shape. It is ripe in October. A strong virtue it possesses is heavy cropping on quite small trees; indeed, it may be planted 5 feet apart. The growth being erect, it requires little space, yet gives huge returns.

Among kitchen varieties, enormous crops have been obtained from Grenadier and Lord Grosvenor, the latter giving exceptionally fine fruits, which are so clear in the skin. The former is perhaps a trifle earlier and less liable to scab than the latter. Early Victoria and Golden Spire, where space is limited, have done well. An Apple which has been a huge success this season is Norfolk Beauty. Years ago I said this would be a popular Apple and do much to replace Warner's King. This season has proved this to be the case. In growth and crop it is all that could be desired. The fruit is clean and large, with evenness, which is a point in its favour. Jubilee has done well, as has Bismarck, Gascoyne's Scarlet, Peasgood's Nonsuch, Mère du Ménage and Lane's Prince Albert. Once more Bramley's Seedling has enhanced its reputation in a remarkable degree. Perhaps the fruits are not so large, owing to the heavy crops, but the colour is much more intense—not that this is a virtue in a cooking Apple. Newton Wonder again proves its value as a late keeper. In growth and crop, indeed, it is a race between this and Bramley's Seedling as to usefulness. Anyhow, there is room for both. An Apple that is making headway is King Edward VII. I have a high opinion of its qualities. The growth is free and clean, and the leaves are heavily charged with chlorophyll, which means the fruit will be highly charged with flesh and juice. The fruit is shapely, with scarcely any eye; skin slightly tinted with red. Its keeping qualities are longer than those of Bramley's Seedling. The question of grading the fruit is, I fear, little understood by the ordinary grower. He still fails to realise why his returns are not as good as those of the man who takes pains to make at least two samples. Many make three. Time and loss, I presume, will open the eyes of the careless to this desirability.

Swanmore, Hants. E. MOLYNEUX.

Autumn in a Surrey Garden

BY MRS. C. W. EARLE.

THE autumn flowers this year, in spite of wind and rain, have been unusually good; they stand any amount of wet, but the weeds have been fatal to all but strong-growing plants. Funkia Sieboldii is one of my special favourites; the flowers stand up so well above its large bright green leaves. Like many perennials, it must have just what it wants; it looks healthy, but does not flower at all. First, it must have a dry, sunny situation, be replanted every two or three years, and in dry, hot weather it is well to give it a mulching in July or August; but it is worth this care. It does well in water and the buds expand, so it lasts a long time. Dictamnus Fraxinella is a plant no garden should be without. It seems to like a dry, light soil, and it also, I am told, likes chalk. I have grown both kinds, white and purple, from seed, but that is a slow process; and the books say the roots, if cut in spring, soon strike and make good plants. A small shrub I forgot to mention called Chionanthus (the Fringe Tree) is well worth growing. If Chimonanthus fragrans is well pruned back like fruit trees, it flowers better in the winter. The yellow, bronze and white early Chrysanthemums have been excellent this year. The cuttings were put into a frame last winter and planted out in fairly good soil in June, and they have flowered profusely for nearly three months. They are invaluable for picking, as they do so well in water. We used to keep the old plants, but that is no good at all. They are best thrown on the rubbish heap after the cuttings are taken.

THE FRINGE TREE (CHIONANTHUS VIRGINICA) AS A POT PLANT.

The American Maize, or Indian Corn, one of the many plants which were unknown to the Old World, has done much better than I have ever before had it, and instead of bringing it on in pots and planting it out, it was sown in a shallow trench in the first week of May, and has been much enjoyed by friends, eating it in the ugly way. The American Indians used to put a fish on each side of their seeds, not willingly as a manure, but to propitiate their gods. I strongly advise an increased growing of the best wild Strawberries in English gardens, but it is important to remember what few English gardeners know—that Vilmorin says in his invaluable "Vegetable Garden" that the Alpine Strawberries do better raised every second year from seed than cultivated from runners, as the plants deteriorate. Children love the fruits. There is a Bush Alpine Strawberry that makes hardly any runners.

My garden is surrounded by fine old Sweet Chestnut trees. I was afraid the Chestnuts might not ripen so well this wet year, but they are extra good, so I was wrong. The trees vary greatly. On some the nuts never grow to any size and are useless for eating; but others, on the contrary, produce excellent nuts year after year, not quite so large as those seen in London shops, which come from Italy or Spain. But why Chestnut trees are not more planted in England along roads and hedgerows, instead of the ugly, useless Elms, I cannot understand. The Elms were originally planted in great quantities in the early days of the nineteenth century, when they were pruned up to a head. Now they are no longer pruned, and have a hideous fringe up the stems. They were grown and carefully tended, as they were hollowed out and laid down as drain-pipes in London; but they were quickly superseded by earthenware and iron pipes. I saw an old Elm pipe dug up in a London street not so very long ago. Sweet Chestnut trees grow quickly from seeds, but it is extremely important to choose them from a good tree of the best fruiting kind. I have many trees round my garden, but they vary greatly, not one year or another, but always. Many never produce a nut of any size. They grow right up a lane which is supposed to be part of the old straight Roman road which ran between Guildford and London.

I wonder if it would be better to grow the young Chestnut trees from the larger fruits that are seen in London shops, or from those grown in our uncertain climate. This I must leave to better gardeners than I am to know; but let all young gardeners grow these or the English ones in a small nursery and plant out in suitable places. An amusing experiment for children is to tie a Horse Chestnut with string, half fill a fruit bottle with water, and let the Chestnut just touch the water. Hold the string by the cork, and the mystery of Nature is plain. Both root and branch burst from the same spot, and one grows

up and the other down. If single grains of Wheat are sown in November or January and thinned to 6 inches apart, the one grain will produce thirty or forty heads. Only one grain must be allowed to grow; if there are two near each other, pull one up.

Two Mesembryanthemums for Amateurs

THE Mesembryanthemums best known to amateurs are M. crystallinum and M. cordifolium, therefore I will not describe these plants, but only speak about two rare, very interesting sorts named M. Bolusii and M. tigrinum. The first was sent to Kew Gardens from East Africa in 1870 by Harry Bolus. M. tigrinum was found in South Africa. The appearance of M. Bolusii is very singular, as can be seen in the illustration. The big, fleshy leaves, which grow in pairs, have a grey-green colour with dark green points. In their youth each couple forms one single body, the whole having the aspect of a little pebble.

MESEMBRYANTHEMUM BOLUSII.

(*Three-quarters natural size.*)

This Mesembryanthemum flourishes in winter, and has yellow flowers, without stalk, growing out of the centre of the plant. The flowers resemble in appearance those of M. cordifolium fol. var., but are much larger. In May, 1916, I bought a small specimen of each Mesembryanthemum at a succulent nursery in Holland. The plants have not yet flowered. M. tigrinum has prickly leaves of a similar colour and also fleshy, but less pointed than those of M. Bolusii. It flourishes in winter or spring, and also has non-stalked flowers. This plant grows more easily than M. Bolusii. The culture of both of these succulents is the same as that for Cacti. In winter they should be kept near the glass in a sunny, ventilated room or greenhouse, and a little water must be given them every two or three weeks. They do not endure frost. In summer the potted plants can be dug in in a sunny place in the garden. Every day in spring and summer a little water should be given. In cold summers it is best to keep the plants in a room or greenhouse. The compost should consist of well-decayed leaf-mould, rivet sand, powdered lime taken out of any old wall, and a little soot.

(Miss) M. C. KARSTEN.

Terborg, Gelderland, Holland.

GUERNSEY LILY NOTES. III

FLORISTS ALL—VARIETIES OF NOTE—"JUST RIGHT" (A TALE AND A DEFINITION)—MY HOPE.

BY THE REV. JOSEPH JACOB.

I LEFT off my second article with a bare enumeration of some of the pinks of this race of knights in shining armour. Now in almost every group of plants, or even in any single plant, great or small, that shows the least atom of potential sportiveness or variability man is never satisfied with what Nature has done for it. Directly a Forrest, a Wilson or a Farrer sends home hitherto unknown or forgotten species and varieties, someone begins to "take them in hand." In other words, the vast majority of mankind are tarred with the florist's spirit. And yet there are some superior people who constantly affect an attitude of benevolent condescension towards those, as they think, misguided beings who can take their beauty in such a concentrated form as a single Tulip flower or the solitary truss of an Auricula. Again, as we say in sermons, there is in very many of us, whether "wild" men like "W. R.," or "natural" men like Lord R. (see page 444 of THE GARDEN), or even mere florists, a kind of ancient alchemistic longing for the next to the impossible. Yes; the struggles made to attain it and the many disappointments and set-backs of the seekers would make a volume of stimulating and, occasionally, rather pathetic reading. The patience and perseverance of an Elwes in his quest of a pure white Nerine is a case in point. Whiteness has been confined by Nature to the small half-open pudica and the bird's nest shaped umbel of an undulata alba. Man, however, would like to have the rose of sarniensis made white, "hence the pyramids."

Now probably next in difficulty of attainment to a white has been a good pink. Here Mr. Elwes can say, "*Veni, vidi, vici.*" We have a good series of them, thanks largely to his efforts. But they are still among the uncommon. Speaking from my own limited knowledge, I am disposed to put Lady Mary Shelley at the head of this pretty and taking group. It is free-flowering, it increases quickly, and it is of a very pleasing shade of warm pink, quite a self. My two potfuls have never disappointed me in the whole of their five years' sojourn at Whitewell. I have a single bulb of Miss Shelley which is more delicate in its colouring, with the edges of its petals of a lighter tone than their centre. It is a delightful flower. It has all the charm and freshness of a young girl. Then there are several with a deep rose eye or centre. My best is labelled "No. 9, B–P." It is a gift from my good friend and fellow Nerine-lover Mr. Bennett-Poë. Lastly, there are two narrow-petalled delicacies in Lady Carrington and Dainty Maid, the latter, I believe, a "Lilleyacious" beauty from Guernsey. Salmon pink is found in Miss Woolward, an Azalea-looking bloom; and the tall, stately Hon. Mrs. Kingscote, which has the Martagon curled, strap-shaped petals. In their general appearance the two are as far as the Poles asunder, but this only shows the possibilities of the race. The last named reminds me so much of Duchess, which came from Glasnevin—a somewhat fleeting beauty I am afraid, but, when caught just right, one of the most lovely. "Just right." I hardly like to associate Duchesses and beer, but the definition is too good to be lost. A certain publican had some casks of beer which he found were rapidly deteriorating. He did not for some reason or another want to return the beer to the brewery, so he resolved to have a free night, and forthwith invited all his regular customers for the evening. Next morning he met one of his guests and asked him how he had liked the beer. "Mister, it was *just right*. If it had gone a bit more we couldn't have drunk it, and if it had not been quite so much gone we would never have got it. It was *just right*." Duchess opens a pale pure shining pink; with age soft grey stripes appear on each of the petals. See it, then, before they have grown too prominent, before the first flower of the umbel has begun to fade, when it is just right; one can only say it is a real beauty.

This grey and purple colouring, whence comes it? I am best acquainted with it in Lady Bromley, in which, soon after the flower expands, smoky purple broad stripes occupy the edges of each segment, while the original rose persists in their centre. Again, if the umbel is caught when it is "just right," the effect is not unpleasing;

MESEMBRYANTHEMUM TIGRINUM.

(*Three-quarters natural size.*)

at least this is about all most men can be got to say of it. Ladies, however, think differently. They all love grey-haired Lady Bromley. There is a picture of one of Herbert's hybrids in his "Amaryllidaceæ", on plate 45 (N. Mitchamiæ). It shows most distinctly this curious grey colouring. Its parents were curvifolia and undulata, but if I have got the right plants under these names neither of them shows any inclination to premature greyness. Whence came it in this hybrid?

Rose pinks and roses form a numerous colour group. The large Bowdenii is always prominent in a collection on account of its size. The colour is a pleasing rosy pink. To me, however, its chief title to be mentioned here is the possibility of its becoming the progenitor of a hardy race. Mr. Veitch of Exeter has told me that it has lived with him for some years outside in a narrow greenhouse border with a southern exposure, and that he has raised hybrids from it which bid fair to inherit a like degree of hardiness. In my greenhouse this autumn three in this rosy group were very prominent—Miss Carrington, Lady Acland, and the extra free-blooming Epic. For some reason the lovely deep rose, broad-petalled Lady Llewelyn was not up to what I have been accustomed to expect. All the same, the variety

deserves a word of praise for what it is when at the top of its form. Another claimant for honourable mention is Lord Cadogan, on account of its lateness of flowering. It and several others, viz., the tall, deep crimson Margaret McIntyre, Lily Baker (salmon), undulata, flexuosa alba and India (a dusky acquisition from Mr. Reuthe) fill up the gap before the coming of Mansellii—the beginning of the end; as Willyum Grubbins in his letter about "green fli" put it, the "Minnie, Minnie tickul the parson" on the wall (the late C. T. Druery in "The Tatur Disees"). There seems to be a dearth of very dark crimsons. The best I have seen came to me as an unnamed seedling from Guernsey. It is so rich in appearance, and the shining tinsel look of the family is very pronounced on its petals.

The Azalea-flowered type does not at present include a large number of varieties. Miss Woolward, already mentioned, was the first one I owned, and it still "takes some beating." It almost might be a small salmon pink and palest blush Azalea placed on a tall flower-stalk. I have a whole bevy of beautiful seedlings claiming this variety as their mother. Empire, which came from Barrs, has a longer flower, more pudica or gramophone-like in its build, pink in colour, with a rose central stripe, very large compared with the afore-mentioned pudica, but no—it is not as pleasing to me as its rare shape should make it. Lady Louisa Langley (Elwes) is akin to Empire in bloom and umbel, but a deeper shade of rose pink. Notwithstanding my rich harvest this autumn, I have had a disappointment in not seeing Chapman's Rotherside blow. It is, as well as I can remember it, a sort of soft pinky scarlet, a replica of sarniensis in shape, equally tall and imposing—but, I am afraid, just a wee bit difficult to coax into bloom. All the same, it is a wonderful "five bobs'" worth.

With the mention of Lady Howard de Walden my names must come to an end. To me it appears to be a bright cerise carmine, and a potful is always cheery and charming. It is a free flowerer, on the late side, would want a footstool in a crowd, but quite one to have. And now to conclude. No family of plants is more easy to cultivate if a greenhouse from which frost can be excluded can be given up to them. Guernsey Lilies are well worth it. They are a beautiful autumn gift from Dame Nature which I for one hope never to be without.

KEW NOTES

AN interesting group of plants in bloom at present in No. 4 Greenhouse is that of Heeria rosea, also known as Rhexia rosea, and figured in the *Botanical Magazine* as Heterocentrum. It is a native of Mexico; the flowers are of a pleasing shade of rosy pink and about an inch across. The plants are in 6-inch pots and from 2 feet to 3 feet high. The panicle is composed of many flowering branches, and the flowers are freely produced. The healthy-looking foliage has a rough surface.

In the Begonia House are some nice plants of Clerodendron disparifolium. They are flowering freely and make nice strong-looking plants. The dull green foliage shows up the small white flowers to advantage. The scent is rather strong and of a curious faint odour.

Near the ruined arch is to be seen a clump of Celastrus articulatus. This is a Chinese plant, and is now at its best. It is well worth going to see. The foliage has nearly fallen, and the fruits show up to advantage on the bare stems. Before ripening the fruits are Pea-shaped and, when the inside the bright orange scarlet berries in the centre of the yellow covering. They are very freely produced this season, and now the plants are studded all over with colour.

Another class of plants also very beautiful are the bright-fruited Crabs. One of the prettiest masses of colour is a large tree of Pyrus baccata close by the Victoria Gate. The fruit hangs in ropes of crimson, and, now that the foliage is falling, the colour shows up to advantage. The fruit of this tree is used in Siberia for making a kind of punch, and in England to make jelly. It is one of the prettiest lawn trees, flowering in April and May.

Another pretty tree is Cratægus prunifolia. The fruits of this are bright red, and are this year hanging longer than usual. The leaves fall early in October, but before they fall make one of the prettiest trees at that season, the leaves being all shades of copper and gold. W. L.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Cauliflowers.—Any remaining plants in beds or boxes, no matter how small, should not be wasted, but be transplanted into frames on a bed of soil 4 inches deep. Such plants will be valuable for putting out in April next year. Any heads now turning in on late plants should be protected by tying the leaves over the centre of the plants. Any plants just forming heads would be better lifted and planted in cold frames, where the heads would mature and be acceptable next month.

Chicory.—Lift the roots as required, bringing on a few under the staging in the greenhouse, in a Mushroom-house, in a box in a dark room, or cover with freshly gathered leaves, through which the leaves will grow.

Beetroot.—All the roots should be lifted and stored in sand or ashes in a shed or cellar from which frost is excluded.

Parsley in frames should be well ventilated during fine weather, stirring the soil frequently to check fungus growth and prevent decay of the leaves. Small plants from an outside bed may still be transplanted in the frames for spring use.

Club Root in the Brassica and Turnip tribe has been somewhat rampant in some gardens. Where the crop is cleared, the soil should be deeply dug over and dressed on the surface with gas-lime, allowing it to gradually work down among the soil. This is an excellent corrective for soil that has been troubled with fungoid pests, but it should not be used too freely, as its effect upon plant-life is at times injurious.

Celery.—There are still some batches of late plants which have not yet had their final earthing up. These should not be longer neglected, as a sharp frost might injure the hearts of the plants.

The Flower Garden.

Dahlias and Cannas should be lifted and stored in soil in a frost-proof shed or cellar.

Hedges.—The planting of such hedges as Beech and Hornbeam, which make neat, close growth and afford excellent shelter, should now be completed. Where tall, quick growth is desired, Thuya Lobbii and T. occidentalis are fast-growing subjects and make capital screens.

Roses.—Complete the planting as fast as possible. This is all in favour of success next year. The plants put in now will have more time to become established before winter sets in. If the leaves are removed from the plants, the roots take more quickly to the soil and do not feel so much the check of removal.

The Planting of Deciduous Subjects, such as Lilacs, Deutzias, Diervillas, Thorns, &c., should be proceeded with as fast as possible.

The Herbaceous Borders.—A clearance can now be made of all stems that have borne flowers, making the whole tidy, finishing off with a mulching of decayed leaves or vegetable refuse and old potting soil, which increases surface roots about such subjects as Heleniums, Aconitums, Gaillardias and Chrysanthemum Leucanthemum. Any gaps should be filled up, or plants reduced if they are overgrown, as where this occurs the stems are appearance. Remove the soil 2 inches deep from the crowns of Delphiniums, and replace it with finely sifted coal ashes as a preventive of slugs, which often do much damage to the crown growths.

Montbretias, although hardy in some soils and situations, are not always so. In the case of choice varieties it is wise to lift the roots and place them in boxes of soil in a frost-proof place.

The Hardy Fruit Garden.

Gooseberry and Currant Trees in some gardens are liable to have their buds picked out by sparrows even at this time of the year, and this would diminish the next season's crop if allowed to go unchecked. Spraying with pure lime has a protective effect if done twice during the autumn and early winter.

The Pruning of Apple Trees should be done as fast as possible. There is no advantage in waiting longer, as the shoots are thoroughly ripe. Cut all the current season's growth back to a single eye where the shoots are not required to increase the size of the trees or to fill gaps. In pruning an established tree, the first thing to do is to remove a main branch if the branches are too closely placed on the tree. Abundance of light and air are the salient points to observe. More fruit will be obtained from one mature branch than can be had from several that are weak owing to overcrowding. E. MOLYNEUX.

(Steward to W. H. Myers, Esq.)

Swanmore, Hants.

FOR NORTHERN GARDENS.

Glass Structures.

Routine Work.—We have now entered into the most difficult period of the year for plants, when watering, ventilating and firing must be managed with the utmost discretion. Apart from saving fuel, high temperatures during winter are to be deprecated. Low temperatures, on the other hand, demand careful application of water to all kinds of plants, the loss of moisture by the foliage being little or nothing and root action slight. Manurial dressings also should, if possible, be discontinued, and ventilation secured whenever the weather is favourable. The spaces between the plants should be sufficient to allow air to play all round them.

Peaches.

Late Peaches.—Where the foliage is still holding, it may be removed by switching it off with a Birch broom, being careful in doing so to move the implement in a line with the movement of growth. Leaves, though green, should now come off with a very slight use of the broom; if they do not, it is a sign that the shoots have not been matured. What pruning is needed may be done at the same time, the great mistake with the inexperienced being the leaving of too many shoots. If one can picture the space wanted to allow the young shoots of another year to have room and verge enough, and prune accordingly, that would just be right.

Cleaning and Tying.—Though these are tasks fitted for wet and stormy days, do not let them stand over longer than possible. Arrears of any kind are not good for gardening. The Peach, it may be remarked, resents strong insecticides and washes, and if the trees have been clean throughout the period of active growth, nothing more is needed than drawing a sponge saturated with soapy water along the shoots. For red spider a weak solution of Gishurst Compound is effective, applied in the same way. Arrange the shoots perfectly straight and radiating from the base as from a common centre. One will not get any more or any better fruit, perhaps, but it simplifies the work in the end, and it is the only method whereby the foliage all over receives equal space and light. The ligatures should never be tight.

Outdoor Peaches.—These may be left till February unless scale is present, when the shoots may be treated now in the way advised for trees infested with red spider. Pure cow-manure is of the greatest value for Peaches, and it may be applied as a surface dressing either now or in spring. A great many Peach trees one sees struggling for existence would revive were they properly manured.

Shrubberies.

Leaves.—These, if possible, should be removed off lawns, walks and shrubberies at the earliest opportunity, or before being sodden with wet. They are of great value as a mulch to shrubs in congested shrubberies. Where no use can be made of them, the easiest way to get rid of them

accomplished only when dry, and therefore as soon as possible after their fall.

Surface Dressings.—Accumulations of soil, composts, sweepings, &c., which have lain a year or two and been turned and well mixed, though not to be admitted to gardens, are of much use if spread a few inches thick above the roots of shrubs and up to a foot above those of trees, either or both of which exhibit signs of exhaustion. No time is more suitable for the wheeling or carting of such material than the period we are now entering upon. Newer refuse should be prepared by turning and mixing it similarly, which can be done when other work is stopped by bad weather.

Protecting Shrubs.—Such tender things as Myrtles, Olearias, Eriobotrya japonica, Nandina domestica, the less hardy Roses, Fuchsias and such like are all the better for having some slight protection, which, if powerless to avert disaster in the case of extremely low temperatures, is, nevertheless, of some use in the majority of winters. One of the simplest and most effective coverings is straw in the form of rough ropes—the rougher the better. This is wound around the shrub to be protected—not too closely, because a close wrapping excludes air, and that is bad for the shrub. Spruce branches are also good, but more as a shield against a hot sun succeeding frost than as a protection.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

Viola bosniaca

THIS is a name in use in gardens for a very beautiful annual Viola from Bosnia. When it is happy it sows itself freely and forms neat little tufts of leaves by autumn which in the following year produce quantities of flowers of a most distinct and delightful rosy shade of red. Speaking from memory, I should say they would require the paint known as purple lake mixed with some rose madder to reproduce their hue in water-colours. They are of the warmest red tones in spring and early summer, and become rather paler and sometimes slightly more purple during the heat of July and August. The "Kew Index" in its first supplement informs us that Viola bosniaca is referable to V. declinata, Waldst. and Kit. On the other hand, V. B. Wittrock in his "Viola Studies.—I.," published in 1897, does not mention the name bosniaca, but gives excellent coloured figures, tab. vii., figs. 82–85, of it, stating that they were prepared from plants cultivated in the Bergen Botanic Garden from seeds collected by Dr. Murbeck in alpine places in Bosnia. Wittrock refers them to V. latisepala, Wettstein, and terms the bright red variety 1. rosea, Freyn. The most obvious distinction between declinata and latisepala as set forth by Wittrock is the much greater width of the lowest petal in latisepala and the generally rounder and more pleasing shape of its flower. As Wittrock's work is the latest on these groups of Violas, and is so very thorough, we need have no hesitation in following him and henceforth calling our pretty little red Pansy V. latisepala rosea. E. A. B.
Herts.

SOCIETIES

HIGHCLIFFE GARDENERS' ASSOCIATION.

THE annual autumn exhibition of fruit, flowers and vegetables was held in the Parish Hall on November 7, and proved to be a great success. The show was opened by Lady Meyrick of Hinton Admiral, and was well attended by visitors. After defraying all the expenses of the exhibition, the surplus money, representing a very substantial sum, was sent to St. Dunstan's Hostel for Blind Soldiers. All the produce was sold, and the money raised added to the fund referred to above. Some very fine non-competitive exhibits were sent by the following ladies and gentlemen: Sir Edward Goschen, Bart., our Ambassador at Berlin before the war commenced; J. B. Luckham, Esq.; Mrs. Tinker and Mrs. Braddyll. All sent splendid collections of Apples and Pears; and Mrs. Ubsall, New Milton, sent Grapes and Apples. Mr. G. Garner staged a bunch of Grapes, the weight to be guessed at sixpence per guess, the money so raised to be sent to St. Dunstan's. The sum of £1 11s. 6d. resulted. Mrs. E. Tinker had a bushel of Peasgood's Nonsuch Apples in another guessing competition, which realised the sum of £1 8s. In the class for four dishes of Potatoes, distinct varieties, Mr. E. Griffin, head-gardener to the president, E. Huntley Hooper, Esq., was first with Up-to-Date, Toogood's Tremendous, Arran Chief and Satisfaction; second and third, Messrs. C. Grace and W. Weaver in the order named. In the class for a collection of six dishes of vegetables, distinct varieties, Mr. Garner was first, Messrs. Griffin and Weaver equal seconds, and Mr. M. Foskett, gardener to Mrs. Ubsall, third. Messrs. Grace, Griffin and Weaver were the winners in the classes for Apples and Pears. Mr. Griffin won in the class for twelve blooms of Japanese Chrysanthemums. Mr. M. Foskett had the six best vases of decorative Chrysanthemums, and Mr. Grace the six best vases of single-flowered varieties.

ANSWERS TO CORRESPONDENTS

KITCHEN GARDEN.

BRUSSELS SPROUTS NOT SPROUTING PROPERLY (*W. P. J.*).—All the Sprout stems should have yielded Sprouts in the same way that you say one of them has done, namely, good button-like Sprouts all up the stem. Why they have not done so, we think, is because of the seeds not being of the best.

POTATO TREMENDOUS PRODUCING 242½LB. FROM 1LB. OF SEEDS (*Sceptic*).—Our correspondent states that a paragraph appeared in a recent issue of a London evening newspaper saying that the Rector of Lower Hardres, Kent, offered prizes for the heaviest yield of this variety grown from 1lb. of seeds, and that Mr. Pigg, a local gardener, took the first prize with a yield of 242½lb., an amateur being next with 126lb. We know that remarkable yields have been obtained during the past two years from many Potatoes in various parts of the country. This, surely, must be one of the most remarkable. For the benefit of allotment holders generally, as well as for the country's sake in these times of shortness of food, a useful service would be rendered if the Rector would kindly favour THE GARDEN with a few particulars regarding the variety and the seed from which this great weight was obtained. Are its cooking qualities good? Is it fairly immune from disease? Were the seeds home saved, or were they obtained from Scotland or Ireland? Into how many eyes or sets were each tuber cut?

DRIED RUNNER BEAN SEEDS (*D. H. P.*).—It is difficult to say which summer-grown Bean, when well ripened, may or may not be used as a substitute for the Butter Bean. We have no Beans exactly like it, or none perhaps so good as it as a winter vegetable. But we have no standard to go by as to which may or may not be used as a substitute for this or for the more common Haricot Bean. Canadian Wonder is largely used as a substitute for the latter. Yes; Scarlet Runner Beans are perfectly wholesome when cooked, and we should have no hesitation in doing so were we placed in your position. If they prove toothsome and are liked when cooked, there is no reason why they should not be consumed, unless it is, perhaps, in the matter of colour, which however, is only skin deep.

JERUSALEM ARTICHOKES TO COOK (*A. Q.*).—Soup.—Cut a couple of dozen tubers in halves after having washed and peeled them, place in a saucepan with two large Onions cut in rings, add a quarter of a pound of butter, salt, pepper and a little grated nutmeg to taste. Turn with a wooden spoon on a moderate fire, adding stock or water. Pass all through a fine sieve into a purée, and add sufficient milk, water or stock to make the soup, also a little butter and a cupful of cream. Serve with cubes of fried bread. To fry.—After the tubers are washed and peeled, cut in slices and fry like Potatoes in boiling fat. Strain and serve with a little fried Parsley. To boil.—Wash and peel a quantity, and boil in milk with salt to taste. The milk must be boiling when the tubers are thrown into the saucepan. Strain and place in a vegetable dish. In another saucepan mix a tablespoonful of flour with a lump of butter the size of an egg. Add the milk in which the Artichokes have been cooked, salt and pepper. Turn constantly on a moderate fire for a quarter of an hour, and then pour this sauce over the Artichokes.

AN ECONOMICAL WAY OF USING VERY SMALL POTATOES (*N. C. J.*).—Inexperienced allotment Potato growers—and there are very many thousands of them—will be encouraged and benefited by the experience of our correspondent. It has been a common difficulty to know what to do with very small Potatoes, *too* small in the estimation of many to profitably plant as seed, and as a consequence are generally consigned to the pig trough. Our correspondent says: "I weighed out this spring 1lb. of small Potatoes (forty-eight to the pound). I made a row with a flat bottom the width of a spade and scattered them along the row. I have taken up 18lb. of good eating Potatoes, which works out at 252lb. for a stone of such small seeds." Our correspondent wishes to know what is the largest size and heaviest weight of any Potato lifted this autumn. Some of our readers may perhaps be able to help him.

ROSE GARDEN.

RAMBLER AND OTHER ROSES TO MOVE (*E. E. W.*).—In the case of the Ramblers you will be well advised to cut back to their base all the old shoots which have flowered, retaining only the young shoots of this past summer's growth, cutting back only the immature points of such shoots. These should flower all right next year. In the case of dwarf Roses, let them be pruned hard back. This means cutting out the weak shoots to their base and pruning back all other shoots to within two buds of their base. This final pruning should not take place until the end of March or early in April. In the meantime it would be well to slightly shorten the longer shoots at the time of replanting.

TREES AND SHRUBS.

SHRUBS FOR A SHADY, DAMP GARDEN (*I. C. B.*)—The following shrubs are likely to thrive in the position you describe: Berberis Aquifolium, B. stenophylla, Ligustrum japonicum, Olearia Haastii, Viburnum Tinus (Laurustinus), Staphylea colchica, Cornus Mas, Viburnum Opulus and variety sterile, Cotoneaster buxifolia, and Tree Ivies in variety. The ground should be well worked before the shrubs are inserted, and if it is overrun with the roots of the trees in the vicinity, a trench should be made outside the border deep enough to enable you to cut all the roots through. Your Cyclamens should be kept moist at the roots, and if the soil is well filled with roots the plants may be given liquid manure once a week. If, however, they are not well rooted, it will be better to leave them without manure. As a rule, Cyclamens are rather difficult to manage as room plants for any length of time.

FRUIT GARDEN.

PEAR FOR IDENTIFICATION (*E. E. W.*).—The variety is St. Luke's. Without seeing the destroyed fruit it is difficult to suggest the cause of damage. It seems to us very much as if squirrels had been at work. They often do much damage to fruits left on the trees until late.

GREYISH MOULD ON FRUITS OF PEAR MARIE LOUISE D'UCCLES (*R. B.*).—The mould is not now in a quite suitable condition for examination, but it appears to be Entomosporium maculatum, a fungus which occasionally causes trouble on the fruit, though more often damaging the foliage. Spraying with Bordeaux mixture about the beginning of June would probably keep the trouble in check.

PEAR FOR INSPECTION (*W. F. M. C.*).—The indications are in the direction of picking (as you should do all midseason Pears) a little before they are fully ripe. We think the trouble (which is clearly not bitter-pit) must arise from the natural tendency of the Pear to decay when it is ripe. The other Pear is probably Marie Louise; but it is out of character, lacking a calyx, and so on. The Apple is no doubt Margil.

APPLE TO NAME AND BITTER-PIT (*Rev. G. S.*).—1. Scarlet Nonpareil, pale fruit of it. 2. The fruit is covered with bitter-pit. Next spring, when the fruit is the size of a Hazel Nut, spray all the tree with half an ounce of sulphide of potassium dissolved in a gallon of soft water.

FLOWER GARDEN.

PERENNIALS FOR CUT FLOWERS (*R. W. J. S.*).—As you say nothing about the season of the year you require cut flowers, we have concluded that they will be welcome at any time. Daffodils and Tulips rank high in value as cut flowers, though you may probably grow these apart. They are, however, indispensable, and a selection should be grown in every garden. Then, among other bulbous and tuberous-rooted subjects are Alstrœmeria aurea, A. aurantiaca, and the bulbous Irises known as "Spanish" and "English," which are quite cheap by the dozen or hundred, and which are among the most artistic and useful of hardy plants. Among border perennials proper may be mentioned Doronicums austriacum and plantagineum excelsum; Delphiniums Belladonna, Lamartine and Moerheimii; Flag Irises Rhein Nixe, Queen of May, Mrs. H. Darwin, Her Majesty, Mme. Chéreau, pallida dalmatica, aurea, Jacquiniana, Iris King, Gracchus, L'Innocence and albicans—these are distinct from those first named; single Pyrethrums Hamlet, Tasso, J. Kelway, Monarch and Jubilee; double Pyrethrums Queen Mary, Aphrodite, J. N. Twerdy, Lady Derby, Melton, Mont Blanc, Pericles and Ne Plus Ultra; Phloxes Mrs. Jenkins, Elizabeth Campbell, Météore, Dr. Königshofer, Europe, Fiancée, Baron Von Dedem and Rijnstroom; such Pæonies as Marie Lemoine, Solfaterre, Philomele, Canari and Mme. Charles Lévêque; any of the Montbretias, planting single pieces a few inches apart, as these produce finer spikes of flowers; Lilium candidum; Lathyrus White Pearl; Heleniums Riverton Gem and magnificum; Monarda Cambridge Scarlet; any of the Heucheras, which are most graceful; Gypsophila paniculata fl.-pl.; any of the garden Pinks; Galega Her Majesty; Geum Mrs. Bradshaw; Gaillardias in variety; and the following selection of Michaelmas Daisies, viz., Peggy Ballard, Desire, ericoides Silver Queen, Climax, Feltham Blue, cordifolius Dandy, Edwin Beckett, Mrs. S. T. Wright and Beauty of Colwall. In addition, Asters Amellus, Framfield, Aldenham, Progress, Ultramire and Distinction would be valuable. Apart from these are other groups of flowers—white Marguerites and perennial Sunflowers, if these would not be considered too coarse growing. If it is desired that border ornamentation be wedded to utility, it would be well that the plants be set out by someone with a good knowledge of the subject.

MISCELLANEOUS.

NAMES OF PLANTS.—*H. K.*—The plant sent from India is Nerine filifolia. It is a native of South Africa.

NAMES OF FRUIT.—*J. P. L.*—Small fruit of King of the Pippins.——*S. M. P.*—Apple King of the Pippins. Pears: 1, Brown Beurré; 2, Doyenné du Comice.——*G. E. P.*—Beauty of Kent.——*A. J. C.*—1, Claygate Pearmain; 2, Tibbett's Pearmain; 3, Royal Nonsuch; 4, Lemon Pippin.——*Orchard.*—1, Wyken Pippin; 2, Northern Greening; 3, Cox's Orange Pippin; 4, King of the Pippins.

"My Wood Fires and Their Story"*

IT is a pleasant theme that Mr. William Robinson has chosen for his latest book, and we have found it a congenial task to sit before "the glowing hearth" and read within its pages much that will prove helpful and suggestive to those who live in districts where wood is plentiful. It is not surprising that the author is enthusiastic about wood fires; no one, indeed, after reading this book and seeing the pictures of the delightful fireplaces at Gravetye could fail to be converted. When Mr. Robinson first took possession of this ancient manor house he found the old fire hearths had been closed up and attempts made to adapt them to coal burning, attempts that were unavailing. Then once again the spirit of old things moved in Mr. Robinson, and the old-fashioned hearth fires were restored; the chimneys that had been tampered with and made narrow were widened; and by a simple but ingenious system air ducts were provided for those hearths which had not sufficient draught for the combustion of wood. If the hearth is to carry a wood fire, the size of the chimney should be 14 inches by 14 inches, and the hearth should be raised 8 inches or 10 inches above the level of the floor, so as to secure a better radiation and improve the draught.

Some of the old inns and farmhouses in the West Midlands have the roomy grates and wide chimneys that were intended for burning wood, and though we have often thought that much heat went to waste in them, it was a rare event to find one that smoked. These old hearths will burn pieces of wood 4 feet or more in length, and when they are burnt through the middle, the ends are pushed together into the fire. No doubt it is to lengths of wood like this that Mr. Robinson refers when he says it can be had "if one pays three shillings a cord for cutting it up by hand." But, when we asked an old Bewdley forester how much it would cost to cut up a cord of wood suitable for burning in the stupid little modern grates of our present house, the reply was, "Seven or eight shillings."

The author justly praises wood fires for their cleanliness, for their heat, and for their economy, in that one avoids the unpleasant task of taking away a mass of coal ash every morning, as well as making use of fuel that is close at hand. This is a point worthy of remembrance, that the ash of a wood fire should be seldom removed—not more than two or three times a year with a fire in constant use. From a gardener's point of view Mr. Robinson's wood fires are most commendable, because, while they fill his rooms with a sweet incense, they leave the flowers in his garden unspoilt by the sooty black smuts that emanate from a coal fire. A most interesting chapter is that entitled "Working the Wood Fire," in which the author tells us how to keep the fires going without a maximum of trouble and, withal, by the use of a minimum of fuel. "Wood Fires in London" is yet another chapter of considerable interest, and one that will appeal to those who spend most of their lives pent in that vast city. We are told that a wood fire is "the best and prettiest of fires"—a dictum that we accept quite readily; the author might also have added "companionable," for we always feel that there is a kindred spirit in the room when there is a log crackling merrily on the hearth, and Mary Howitt must have had this in her mind when she wrote:

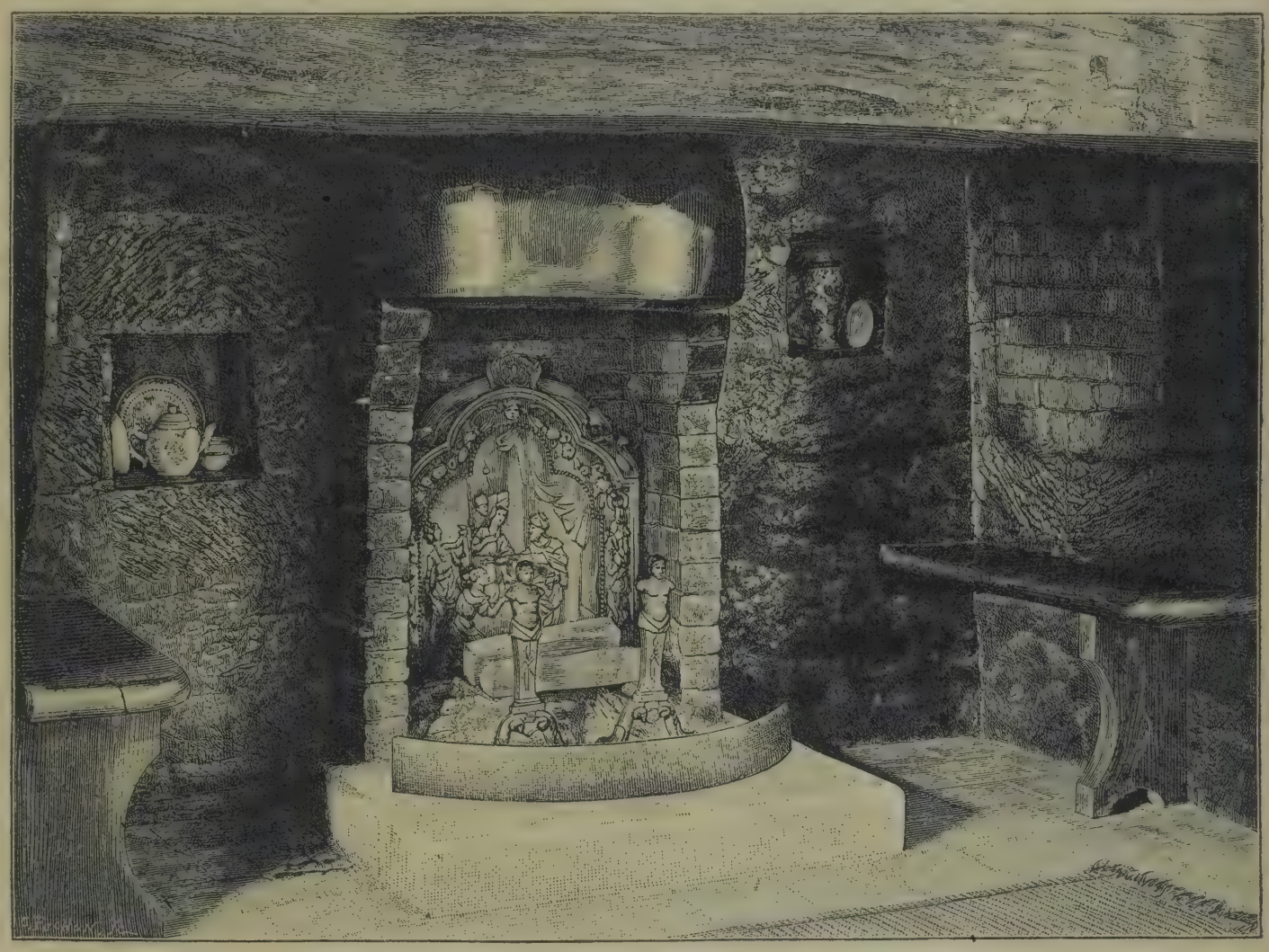
"A fire's a good companionable friend,
A comfortable friend, who meets your face
With welcome glad, and makes the poorest shed
As pleasant as a palace. Are you cold?
He warms you—weary? he refreshes you—
Hungry? he doth prepare your food for you—
Are you in darkness? he gives light to you—
In a strange land? he wears a face that is
Familiar from your childhood. Are you poor?
What matters it to him. He knows no difference
Between an emperor and the poorest beggar!
Where is the friend, that bears the name of man,
Will do as much for you?"

Of course, there are arguments against the adoption of wood fires, even where wood is plentiful, on the ground of the extra labour involved in cutting up the wood as well as the provision of storage accommodation. To have an equable temperature throughout the house by means of central heating is now the most approved plan of saving labour, but it makes no pretence of beauty, and one loses the dear old associations of the English hearth that have been so worthily regenerated by Mr. Robinson. We would suggest to future architects that all large halls should be given a fireplace for burning wood in conjunction with a heating apparatus.

Oak is the best of all wood to burn, and its boughs when barked make splendid fuel after being "ranked up" (as they say in Bewdley Forest) for twelve months. From time immemorial wars have forced the woods to pay tribute, and this one is now laying its hand upon them. The hollow stroke of the woodman's axe and the rasp of his saw everywhere resound in the woodlands, making great inroads upon the Oaks. The charcoal burners, too, are busy "getting the smoke out," as they will tell you, and so the monarch of the forest after centuries of peace helps to propel the thunderbolts of Mars. Such a one we saw at Bewdley Station a few days since, borne thither from the lovely woods of Ribbesford that lie on the Severn's marge. Its Gargantuan limb was 6 feet 9 inches in diameter at the butt—a Cyclops without a blemish.

Beech, Ash, Hornbeam and Birch are next in order of merit as good for burning, while Elm comes last. This is good, though, to put as a log at the back of the fire, for it will burn for days. Our old forester declares that it must be stored in the dry for two years "before there's any fire in it."

We fear that the chapter on "Cooking with Wood Fires" will prove somewhat of a disappointment to those who have lived in the Colonies and had some experience of those excellent cooking stoves which are so much in favour in Canada and British Columbia. Mr. Robinson tells us that he saw good ranges made for burning wood both in Vienna and in Buda-Pesth, and it would be interesting to know whether these were superior in any way to a wood-burning range like the "Gurney-Oxford." This consists of a shut-in firebox, a large oven to bake six tin loaves, and four saucepan holes on the top. At the side there is a hot-water tank, or, if water is laid on, pipes are fitted in the firebox for heating. Over the top is a warming closet for keeping things hot.



THE MOAT COTTAGE FIREPLACE AT GRAVETYE.

* "My Wood Fires and Their Story. Showing the beauty and use of the wood fire: of the way to secure good draught and combustion: of the native woods best for fuel: of the abolition of the fender: and of the economy and value of wood as fuel." By W. Robinson, author of "The English Flower Garden." Published at the Offices of *Country Life*, 20, Tavistock Street, Covent Garden, London, W.C.; and by George Newnes, Limited, 8–11, Southampton Street, Strand, London, W.C.; price 5s.

The "Gurney-Oxford" is made of steel, and before the war cost £8 or £9 in Winnipeg. It does not require to be black-leaded, but is kept clean and bright by wiping over with paraffin. The oven door is fitted with an oven thermometer; and the heat can be turned all round the oven or sent direct up the stove-pipe. It is splendid for baking, but (like all wood-fire grates) it requires constant attention when cooking, though the draught can be shut off so that the fire burns slowly. The heat is fairly regular, and the stove should be fed with pieces of dry wood a few inches in thickness and 14 inches to 16 inches in length. For lighting and getting heat quickly the writer's sister tells him that Canadian Cedar is best, but for general use Birch is prime favourite, Tamarac (or Tamarack, *i.e.*, Larix americana) next, followed by Pine, Hemlock and Cedar in the order of preference.

No one will quarrel with the author's remark that "the best cooking in Europe is done with wood and by the charcoal bench for stewing and braising." Before the war our modern bread—rushed by the quick-dough process and parboiled in a steam oven—was often tasteless and uninteresting, and in no way to be compared with that made in a side-flue oven heated with sticks from the woods, a method that still lingers in certain parts of the country. And who that has tasted a piece of wheatmeal bread toasted over the ashes of a wood fire would care to go back to restaurant toast made over a fire of gas?

Let us admit that the charming illustrations of the fireplaces at Gravetye which are depicted in this well-printed book have made us envious of Mr. Robinson and out of temper with our landlord's grates. It is to be hoped that the author will persuade one of his artist friends to paint a picture of the "Book-room Fire" at twilight when the logs emit a red radiance as of a West Coast sunset, just as Robert Louis Stevenson painted a similar picture (but in words) for us in "A Child's Garden of Verses":

"Now in the falling of the gloom
The red fire paints the empty room:
And warmly on the roof it looks,
And flickers on the backs of books."

Kidderminster. ARTHUR R. GOODWIN.

OBITUARY

WILLIAM MARSHALL, V.M.H.

WILLIAM MARSHALL passed away on the 11th inst. at his home in Bexley in his eighty-third year. For nearly a quarter of a century he was chairman of the floral committee of the Royal Horticultural Society. He was one of the old school who found infinite pleasure in growing florists' flowers. The Carnation, Auricula, Tulip and old Roses shared his deepest affections. He was elected a member of the Council of the Royal Horticultural Society in 1868.

WILLIAM ANSON THOMSON.

WE have to record the death, on November 14, of Mr. William Anson Thomson, Penicuik, at Rosebank, Tranent. Mr. Thomson was for a number of years a keen and highly successful gardener, and his services as treasurer and an active member of the Horticultural Society were greatly appreciated. Mr. Thomson, who was for fifty years in the employment of the firm of Messrs. Cowan and Sons, Valleyfield Paper Mills, Penicuik, also took considerable interest in public affairs, and was a member of the Town Council for twenty-six years, his resignation being announced only on November 12. He was sixty-eight years of age and highly esteemed.

Potato Show at Kirkconnell, Dumfriesshire.—The allotment holders of Kirkconnell, Dumfriesshire, recently held a Potato show, the proceeds being devoted to the funds of the Y.M.C.A. There was a capital entry, no fewer than twelve exhibitors entering in one class, and there was a gratifying attendance at the opening—which was presided over by Mr. N. M'Millan—and afterwards. In the class for the heaviest Potato, the prize one weighed 3½lb. The first-prize winners in the respective classes were Mr. J. Maxwell, Cairn; Mr. J. Campbell, Rosedale; Mr. J. Steele, St. Conal's Square; Mr. W. Wilson, Rosedale; Mr. A. Wilson, Fauldhead; and Mr. Andrew Harkness, Back Row. A gratifying sum was realised for the Y.M.C.A.

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Spring Cabbage, Pickling Cabbage, Leeks, Brussels Sprouts, Tripoli Winter Onions, Cos and Cabbage Lettuce, Savoys, Broccoli, Sprouting Broccoli, Chicory, Curled Scotch Kale, Asparagus Kale, Cottager's Kale, Thousand-headed Kale, Perpetual and Prickly Spinach, 1/9 100. Strong Seakale and Rhubarb Roots, 6 1/6.
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Eucryphia pinnatifida, extra fine plants, 10/6 ea.

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for next year,
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We can offer a large stock of well grown fruiting trees of all kinds.
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Plant up all Waste Ground.
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Good Healthy Fruiting Trees.
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Peaches and **Nectarines,** in variety, splendid trained trees, 5/- each.

Roses, dwarf, best named sorts, 8/- per doz.
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Apply to the raiser,

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PANESE DWARF TREES & MINIATURE GARDENS,
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SPECIALITY FOR MORE THAN 50 YEARS.

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Exceptionally fine this season. Inspection invited.

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SUBSTITUTE FOR RUSSIA MATS.

"USE FRIGI DOMO" REGD TRADE MARK
CANVAS
FOR PROTECTION FROM FROST
MADE OF HAIR & WOOL WIDTH 2 YD 3 YD 4 YD
TO BE HAD OF ALL NURSERYMEN
OR AT BENJAMIN EDGINGTON'S
(J. W. SILVER & Co. & BENJAMIN EDGINGTON LD)
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RABBIT-KEEPING IN WAR TIME

A practical booklet on the best and most profitable methods of rabbit-keeping for all Garden Owners in Town or Country.

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SPECIAL REDUCED PRICES
EARLY SCOTCH SEED POTATOES.

BEES Ltd. are now completing lifting and grading, and find crops heavier and cleaner than usual. Instead of putting this extra profit into their own pockets they are reducing prices to customers.

Orders are now being booked at prices quoted below for delivery when ready.

Orders already booked will also be executed at these reduced prices.

Special Terms to Allotment Societies.

	112lbs.	56lbs.	28lbs.	14lbs.	7lbs.
Epicure (Scotch). An old favourite which produces very heavy crops, and has tubers of good size ready to lift very early ...	15/-	8/-	4/4	2/3	1/2
Eclipse (Scotch). Splendid white round, very early, shallow eyes, good cooker...	18/-	9/6	5/-	2/9	1/6
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Sharpe's Express (Scotch). A great favourite, very early; smooth skin, heavy cropper	23/-	12/-	6/4	3/3	1/9
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British Queen (Scotch). Remarkably fine, both as regards cropping and cooking qualities. A superb second early; keeps well	15/-	8/-	4/4	2/3	1/2
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King George (Scotch). Although generally classed as a second early, this variety when grown from sprouted seed is ready for lifting as early as "Sharpe's Express" or "Epicure." It is an excellent cropper, does well everywhere, especially on medium and heavy soils. Owing to first early immune sorts being practically unprocurable, "King George" is in great demand as a first early.	18/-	9/6	5/-	2/9	1/6
Great Scot (Scotch). Second early, immense cropper, fine quality and flavour. Keeps as well as a main crop, strongly recommended.	18/-	9/6	5/-	2/9	1/6
Great Scot (Lincolnshire seed)	16/-	8/6	4/6	2/6	1/4
The Ally (Scotch). A second early immune variety with tuber of fine quality and shape, heavy cropper	24/-	12/6	6/6	3/6	2/-

(An excellent set of three potatoes for infected areas would be "King George," "Great Scot," and "Lochar" or "Templar." Prices of main crop sorts will be quoted later.)

Cost of Carriage.

The above prices include cost of bags. If carriage is to be prepaid, please remit as under:—

	112lbs.	56lbs.	28lbs.	14lbs.	7lbs.
Up to 50 miles	1/3	1/-	-/8	-/7	-/7
" 100 "	1/9	1/2	1/-	-/8	-/7
" 200 "	2/4	1/7	1/2	-/11	-/7
Over 200 "	3/2	2/1	1/5	1/-	-/7

(To ascertain distance from Liverpool to your station look up passenger fare in time-table, which is calculated at about 1d. per mile. Thus, if ordinary passenger fare is between 4/3 and 8/4, the distance will be between 51 and 100 miles).

Shallots. 1lb. 1/2, 3½lbs. 3/-, 7lbs. 5/9, 14lbs. 10/6 Carriage paid.

Onion Sets. 1lb. 2/6, 2lbs. 4/6, 3lbs. 6/6, 4lbs. 8/6, 5lbs. 10/6 Carriage paid.

BEES Ltd., 175c, Mill St., Liverpool.

GROW YOUR OWN VEGETABLES FREE FROM DISEASE WITH
THE MOST PERFECT FERTILIZER FOR GREENHOUSES, GARDENS, LAWNS, &c.

WAKELEY'S Celebrated HOP MANURE
(PATENTED)
THE ONLY RELIABLE AND COMPLETE SUBSTITUTE FOR STABLE MANURE

SCIENTIFICALLY AND CHEMICALLY PREPARED.

In the form of a leaf-mould, ready for use at any time, in the same way, and for all purposes that stable manure is put. Goes further (4 bushels equalling 15 cwts.), gives better results, is clean to handle, sweet smelling, and free from weeds, worms, etc.

Report of Royal Horticultural Society. "Your Patented Hop Manure has been used in the Society's Gardens at Wisley, and I am pleased to report that it has proved excellent for the flower borders, fruit and vegetables grown both under glass and out in the open air." (Signed) W. WILKS, Secretary.

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BEWARE OF IMITATIONS; GENUINE ONLY IN OUR MARKED BAGS, CONTAINING GUARANTEED ANALYSIS.

Sold in Bags, 1 bushel, **2/3**; 2 bushel, **3/6**; 4 bushel, **6/-**; five 4 bushel, **28/9**; ten 4 bushel, **55/-**; for cash with order; we paying carriage by Pickford, London district, or to any station within 25 miles of London; **3d.** per bag charged extra for every 50 miles or part beyond this distance.

WAKELEY BROS. & CO., LTD., 75a, BANKSIDE, LONDON, S.E. 1.

Also **WAKELEY'S GROUND GARDEN LIME, 3/-** bushel bag, carriage paid 25 miles, extra as above

FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

MY reference to Black Leghorns and their suitability for Scotland has brought many interesting letters from Scottish readers. Some praise Leghorns generally, and others the Blacks in particular.

For Smallholders.—Mr. Robert Miller, the popular poultry appliance manufacturer of Denny, Scotland, has forwarded me a brochure which represents an address he gave to smallholders and their delegates at the second annual Conference of the Scottish Smallholders' Organisation. From his well-arranged pamphlet I cull the following paragraph, which praises up the Leghorn:

> "In advising which breed to go in for, there are various breeds more or less suitable, but in my opinion there is none to beat the Leghorn. It is hardy, healthy, easy to feed, and not apt to get over-fat. If properly fed and protected during the stormy, cold weather, it will lay as well in winter as the so-called winter layers, and in spring and summer it will, I think, easily beat them. There are other good varieties, no doubt, but my preference is for the Leghorn."

We can attach importance to Mr. Miller's remarks, as he has always been a prominent Scottish breeder of Leghorns, having originated at least one member of the family.

Housing the Pullets. — His statements on housing the pullets, as set out in the brochure referred to, are valuable. Here is an extract:

> "The chickens will be put into movable chicken houses till they are four or five months old, at which age the pullets can be transferred to the larger laying houses. The houses should have wooden floors, and should be built on sledge-runners so that they can be moved about when required. There should be plenty of light and ventilation, but draught should not be allowed in winter.
>
> "In the late spring, summer and early autumn the birds may have full liberty, but in the late autumn, winter and early spring, when the weather is often very cold and stormy, they may be kept more enclosed in the house and only allowed out for a few hours daily when the weather is reasonably good. Nothing in winter prevents laying, or if laying, checks it, like birds hanging about listlessly in the cold doing nothing but getting chilled to the bone. A little reasonable protection will enormously increase the winter egg supply.
>
> "In winter the laying hens should have plenty of nice dry litter on the floors of their houses, and their feed of small grain should be well forked into the litter to induce healthful exercise."

One Shilling and Twopence a Pound.—There one other point in the letter referred to in the November 17 issue. For his Leghorn cockerels he obtained 1s. 2d. per pound, live weight, which is a splendid price. Cockerels, owing to their small frames and quantity of flesh, are always a drawback with non-sitting breeders. Plenty of breeders I know are glad to clear off the cockerels when young for 1s. a head, and thus cut down the food bills. Where the poultry-keeper adopts systematic breeding and trap-nesting, and has a market in consequence for his light-breed cockerels for stock purposes, it pays him, on account of increased returns, to retain the males beyond the age of maturity. Where the cockerels are sold for table purposes, they should, as a general rule, be disposed of early. There comes a time in the case of light-breed cockerels sold for table purposes when the returns cannot by any chance exceed the outlay to date. This is the vital point to keep in mind from the "profit and loss" viewpoint.

Fly Like Pheasants.—A query from a Hants student cannot be read without some amusement, although the matter, to my correspondent, is serious. Here it is:

> "My White Leghorns fly like pheasants. Is it a bad thing to cut the feathers or pull them from one wing? If so, how can one prevent the birds from flying over? My wire-netting is 9 feet or 10 feet high!"

This is one of the annoying habits of all non-sitting breeds, and we will examine the likely remedies. The clipping of the flight feathers is efficacious in most cases, but only those of *one* wing must be cut. The idea is to unbalance the bird when it attempts to fly over the wire-netting. The feathers should be clipped near the shoulder, and there is no disfigurement as the flight feathers are always hidden under the wing itself. Much can be done to prevent this habit from taking root if the birds are taken in hand early. There is not the least doubt that one culprit teaches the rest. As the pullets are reaching maturity it is a good plan always to carry a pair of scissors when visiting the pens. Any birds noticed to be in their wrong enclosures can have their flight feathers cut before being placed in their proper quarters. This is one of my "do-it-now" ideas which brings good results.

Wire-Netting Enclosures.—The height of the wire-netting does not act as a remedy, although so many think this is so. I am not in the least surprised at finding the birds successfully locating the 10-feet netting used by my correspondent. But we must dispense with the word "flying." If my friend will carefully watch the culprits he will see just how they scale the high netting. They will fly half way up, perhaps, and then it is a case of "crawling-up-and-over." I am reminded of a recent experience. Having been called in to diagnose and treat a serious outbreak of diphtheritic roup, there was a deal of steeplechasing, as the birds (Leghorns) were on free range around the homestead. One obstinate hen made straight for the commodious barn and literally *climbed* the brick wall, subsequently squatting at ease on the roof. I am concerned here not with how the little bounder was enticed down after a long period of patient waiting, but rather with the fact that birds "climb" as well as "fly." The only certain remedy is to erect along the top of the wire enclosure a framework of netting fixed in a slanting position. The birds cannot locate this, as it protrudes towards the run. Such a contrivance is often fixed along a brick wall to prevent the latter being scaled by Pussy.

In the Breeding Season.—During the breeding season the plan recommended should be carried out, or many cross-bred chicks will be the result. It is quite a common practice for a White Leghorn female to fly over into the pen of Rhode Island Reds adjacent and return to her proper quarters without the owner being any the wiser. It is such an occurrence that often leads to complaints from purchaser to vendor. The former buys a sitting of White Leghorn eggs and cannot understand why a few of the resultant chicks are buff-coloured. He writes a very uncomplimentary letter to the breeder who supplied the eggs, and unpleasantness is the result. Those who make a speciality of selling eggs for sitting should take steps to prevent such mishaps on the lines I have recommended.

Females Not Ruined.—Many are under the impression that once females fly over into an enclosure containing a male of a different breed they are ruined. This is not so, as the birds are not what we technically term "lined." The batch of eggs under course of development will be crossed, but after about fourteen days they will become pure again. When hens or pullets are caught in their wrong pens, their eggs should be marked and not incubated for a reasonable time. Where many pens of the same breed are mated up, it is an excellent plan to arrange them adjacent, so that no harm results if a female flies over into the next pen. The latter will contain a male of the same breed, and her eggs will remain pure if there should be an alliance. If this idea is adopted, it can be perfected by leaving one pen empty between the various breeds.

Plenty of Offals.—Speaking on poultry-feeding at the first annual meeting of the strong National Utility Poultry Society, Mr. T. W. Toovey, the well-known miller and poultry-farmer of King's Langley, said that

> "there was undoubtedly a great scarcity of feeding grains for poultry. Fortunately, of Canadian and American clipped oats there was a moderate supply, and also of foreign damaged wheat. They had indeed to be thankful for the oats. For mashes there was a much brighter prospect. He estimated that mills were still producing 80 per cent. of the pre-war offals, and as exports of these were prohibited, the available supply was as much as ever. Cooked swedes and mangels could be added to improve the balance of food."

Asked by a member present if oats could be fed to poultry, Mr. Toovey replied: "Yes; and since November 1 English as well as foreign oats."

gs all the year round and SPECIALLY during the bad weather e assured when poultry-keepers feed on THE

DEAL MEAL

ade by the most experienced and rgest poultry breeders in this country,

VM. COOK & SONS

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ry maker advises that his food is the best, but the s of the Ideal are the best judges, and they INVARI-LY recommend it to friends, and many tons weekly sold on recommendations alone. It is supplied in two forms:—

(1) For use with middlings.

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eir system of feeding is effective and economical, and it he only one which develops eggs without the birds oming over-fat in the process.

A TRIAL WILL CONVINCE THE MOST SCEPTICAL OF ITS VALUE.

e price of the Ideal Meal is:—Per cwt., 2/s.; per t., 11s.; per ½-cwt., 6s.; carriage paid in England and es, or 1s. less per cwt. carriage forward to Scotland Ireland, or carriage paid for 24s. per cwt; 13s. per ½-cwt.

Many letters are received daily om satisfied users in all parts of e country, and the following are a w of those recently to hand:

Great Dalby, Melton Mowbray.
onsider your Complete Ideal Meal, an excellent food for fowls. e have got through their moult better this year on your food than before.—R. MEAYS.

Cotmaton, Lindfield, Haywards Heath, Nov. 12th, 1917.
7 ducks continue to lay well on your Complete Ideal Meal. the three s having given me 131 eggs since August 20th. I enclose further r for Meal.—K. L.

59, Mainsgate Road, Millom, Cumberland, Nov. 7th, 1917.
closed please find order for another bag of Ideal Meal, which I recommended to several of my friends—on results.—J. STEEL.

40, Station Road, Sudbury, Suffolk, Nov. 9th, 1917.
m so well satisfied with the results from the ½ cwt. of Ideal Mea lied that I enclose order for 1 cwt. to be sent on.—E. M. GREEN.

Pentreve, Torquay, Nov. 8th, 1917.
ease send me 1 cwt. of your Original Ideal Meal. **From 16 hens on this food I averaged ten eggs daily for seven months.** Q.

75, Westgate, Guisborough, Yorkshire. Nov. 9th, 1917.
ll you please send me 1 cwt. of your No. 1 Ideal Meal. **I consider is the most excellent food. My hens have moulted and well at the same time and I give your food credit for it.** W. BULMER.

The Gardens, Umberslade, Hockley Heath, Nov. 9th, 1917.
ll you please send me 1 cwt. of your No. 2 Ideal Meal. I am very sed with it, and although it is only a short time since I commenced e it, my fowls have improved wonderfully, and I shall continue to t and recommend it wherever possible.—H. S. FOSTER.

48, Birch Lane, Manchester, Nov. 10th, 1917.
ur Ideal Meal is very satisfactory, and I have been using it about weeks, and get on an average 22 eggs per week from five fowls, h I consider good for this time of year.—LEONARD S. COOPER.

23, Chantry Road, Brixton. S.W., Nov. 9th, 1917.
ind your Ideal Meal most economical and my birds do remely well on it. The hens fed on your system look in good h. My Black Leghorn Pullets reared from your eggs are coming ell.—W. H. BOYES

Fairlawn, Southborough, Kent. Nov. 13th, 1917.
onsider your Complete Ideal Meal is **Fine.** and so is your Poultry ler —S. H H.

Westward Ho, Howard Road, Bournemouth, Nov. 8th, 1917.
m very pleased with results from your Ideal Meal, so enclose r for another bag —B. B.

St. Peters, Exmouth, Nov. 7th, 1917.
. P encloses cheque for another cwt. of Complete Ideal Meal. **ch she** has found to be most economical and satisfactory.

Stratham Station, Ely, Cambs, Nov. 1st, 1917.
our Ideal Meal gives me entire satisfaction. No other on the market can, or does, in my opinion equal your d for results, and I want another cwt.—W. G. WYBREW.

etters must be sent to their **Only English Address:—**

M. COOK & SONS, St. Mary Cray, Kent.

TELEPHONE: 7 CRAY (not a Trunk Call).

The Nation wants more eggs from your hens!

The national demand for MORE EGGS is so urgent that every poultry-keeper should bring his hens up to the highest standard of productivity by adopting SPRATT'S scientific system of feeding, viz.:—

SPRATT'S

"LAYMOR"

The ideal soft breakfast feed for laying hens. Rich in egg-producing properties.

"LAYMOR" can be used with middlings or other raw meals in equal quantities by adding 10 to 15 p.c. of "MEBO."

"MEBO"

Rich in albuminoids. Induces prolific egg-laying without weakening the birds.

Follow the advice given on the back of a 7-lb. bag of "MEBO," or send a postcard for our leaflet, "Winter Layers," free on request.

Spratt's Foods are stocked by dealers. If any difficulty in obtaining supplies, write to

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MEALED CLOVER AND ALFALFA

A Green Food rich in Protein and Mineral Salts

and contains the food value of either maize, wheat, or oats.

PROPERLY GROUND FOR POULTRY.

This Meal contains properties which are not to be found in manufactured foods for Egg Production and Chicken Rearing.

No Pale Yolks while Feeding Dent's Mealed Clover and Alfalfa.

13/- cwt., **7/-** ½-cwt. Carriage paid.

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JOHN E. SHACKLETON

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OF THE BEST STRAINS IN THE FINEST BREEDS OF UTILITY POULTRY.

PRICE LIST NOW READY.
It is to your advantage to have it.

CHOLESBURY, near TRING

PULLETS. BREEDING STOCK.

BUY your birds now and get them settled down for winter laying. I have large selection—Golden, Silver, White Wyandottes (273-egg strain), Rhode Island Reds, White Leghorns (285 strain), Buff Orpington Ducks. Birds all ages, both sexes for sale moderate prices. Kindly state exact requirements.

SYDNEY HILLER,

Cleveland P.F., Standon, Herts.

CHEAP EGG-PRODUCTION.

Any kind of digestible rubbish or fresh vegetables, mixed with crispy green bone, becomes—"Bacon between war bread." Butchers' bones everywhere 9d. score. Green bone Cutters £1 19 6 delivered. Plentiful eggs, thriving chicks, enormous profits. Particulars:—KERFOOT, Hawkgreen, Marple, Cheshire.

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FISH MEAL.
Guaranteed pure and the finest quality obtainable.
Per 112lb. **26/-**. Carriage Paid.

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A magnificent egg-producing mixture.
Per 112lb. **20/-**. Carriage Paid.

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25 per cent. Meat.
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25 per cent. Fish Meal.
Per 112lb. **30/-**. 56lb. **16/-**. Carriage Paid.

SUSSEX GROUND OATS.
The Real Thing.
Per 112lb. **30/-**. 56lb. **16/6**. Carriage Paid.

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Per 112lb. **20/-**. Carriage Paid.

THE "ECLIPSE" MIXED POULTRY CORN FOR ADULT FOWLS.
Per 112lb. **26/-**. Carriage Paid.

"ECLIPSE" DRY CHICK FOOD.
Recognised by experts as the standard dry chick food of the day.
Per 112lb. **28/-**. 56lb. **15/-**. Carriage Paid.

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A coarser grade for older chicks.
Per 112lb. **28/-**. 56lb. **15/-**. Carriage Paid.

"PIONEER" DRY MASH.
Per 112lb. **20/-**. 56lb. **11/-**. Carriage Paid.

PEAT MOSS. Prepared fine, specially for Poultry.
Per 112lb. **5/6**. Carriage Forward.

FLINT GRIT. 1cwt. **3/-** 5cwt. **14/6** 10cwt. **28/6** 1 ton. **56/-**
Carriage Forward.

COCKLE SHELL. Per 112lb. **5/6**. Car. Forward.

GRANULATED MEAT. Per 112 lbs., **26/-**. Car. Pd.

BONE MEAL. Per 112 lbs. **21/6**. Carriage Paid.

CLOVER HAY MEAL. Per 112 lbs. **10/6**. Car. Pd.

PEERLESS BISCUIT MEAL.
Per 112lbs. **30/-**. 56lbs. **16/-**. Carriage Paid.

MEAT AND BONE MEAL. Per 112lbs. **21/-**.
Carriage Paid.

SOYA BEAN MEAL.
Per 112 lb. **27/-**. Carriage Paid.

Our Mixtures are guaranteed free from Shell and Grit.

We allow 1/- each for Peat Moss and Hay Meal Sacks if returned in good condition.

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HEN HOUSES

are **RIGHT-ON-TOP** of every other make.
ROBERT MILLER holds supreme place for **STYLE, STRENGTH, and QUALITY.**
Downright satisfaction always.
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Buy the right Grits in bulk, and avoid soft shelled eggs. **5/-, 5/9** cwt., carriage paid. Samples Free.—MIDLAND GRIT CO., Stourbridge.

PATENT CRUSHER for breaking bones, oyster shell, china, etc., for your poultry. Of simple construction, unbreakable, easy to work, 12/- carriage paid.—L. DUNKER, Hillmorton Paddox, Rugby.

CLOVER MEAL.—To get eggs you must give your birds "Klovera," the celebrated brand of clover meal 12s. 6d. cwt.; 7s. ½-cwt.. carr. paid.—ROSSLYN & CO., 30, Kennington Park Road, London, S.E. 11.

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The great intestinal corrective, promoting full-blooded condition, necessary for regular laying. Trial bags, 2/-; 10lbs., 4/-; ½-cwt., 13/9 (fine or granulated). Pure Clover for Poultry, containing valuable mineral salts, 5 bushels, 6/-; 10 bushels, 11/-; all carriage paid.—WILLS BROS., Hoddesdon, Herts.

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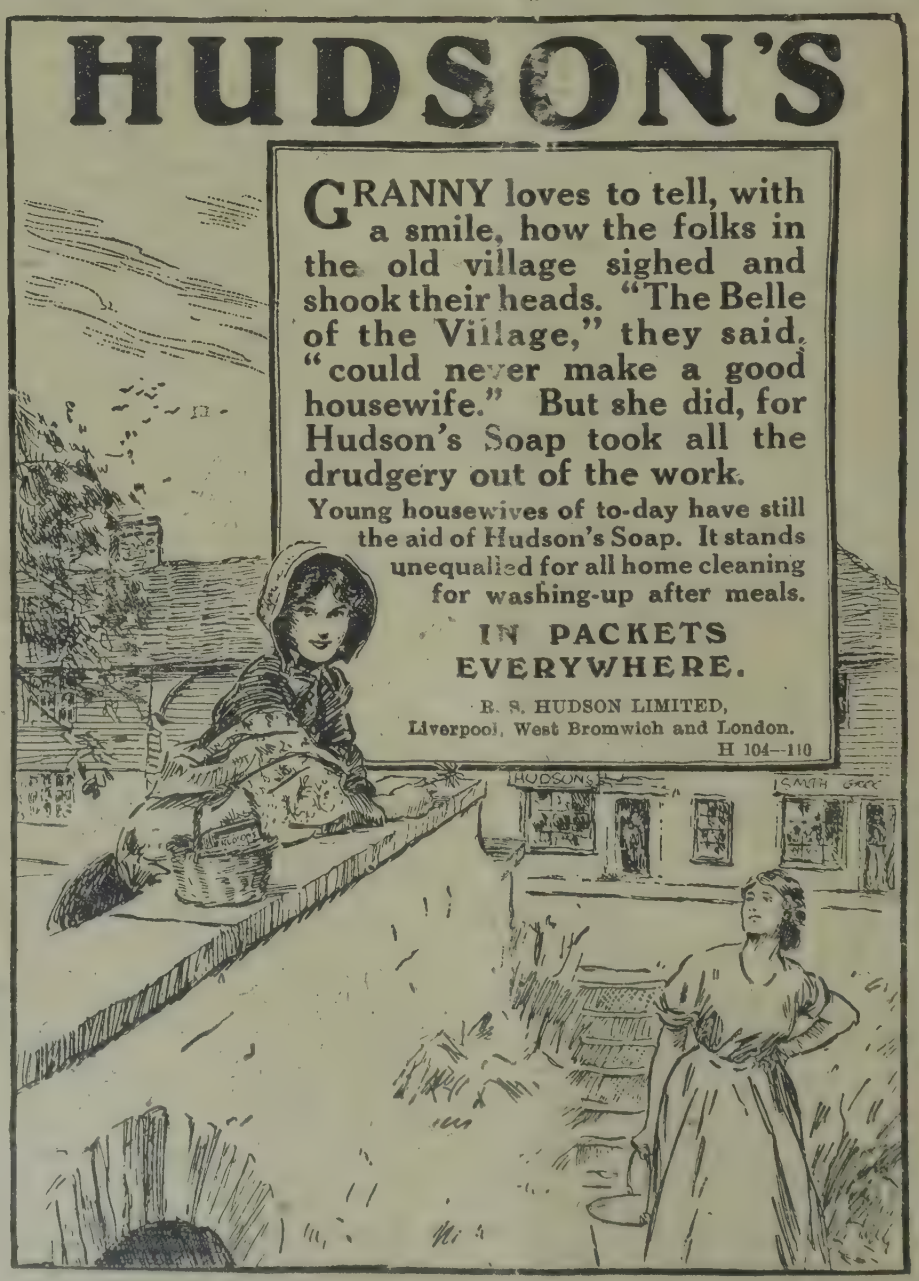

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IUTS, AND HOW TO GROW THEM.

THE GARDEN

A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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Lady Ashtown (hp),deep pk. 9d.
Lyons Rose (ht),shrimp pk. 10d.
Mme. A. Chatenay (ht),sal.pk. 9d.
Mme. Ed Herriot, red - 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. J. Laing (hp),rose pink 8d.

Gold Medal Roses
SELECTION "L."

12 newer sorts, all gold medallists but two.
Creme de la creme. **9/-** Carriage paid.

British Queen (ht),snowyw. 10d.
Dchs. of Wellington, yellow 1/-
George Dickson (ht),deeper. 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),coppery-sal. 10d.
Leslie Holland (ht),vermilion 10d.
Mabel Drew (ht), cream - 10d.
Mme. E. Herriot (per.),pr.red 10d.
M. de Sinety (ht),gold bronze 1/-
Mrs. A. Carnegie (ht),white 10d.
Rayon d'Or (per.), golden - 1/-
Willowmere (per.),coral pk. 10d.

Climbers, Ramblers
SELECTION "S."

6 roses suitable for trellis, pillars, arches, pergolas, &c.
All very vigorous. **4/9** Carriage paid.

Alberic Barbier (W.),yellow 11d.
American Pillar (cl.,P.),pink 11d.
Blush Rambler (cl.,P.),blush 11d.
Dorothy Perkins (W.), pink 11d.
Excelsa (W), bril. scarlet - 11d.
Hiawatha (cl.,P.), crim.wh. 11d.

BEDDING PLANTS

(Ex. strong bushy.) transplanted

	Doz.	100
Wallflowers, red -	10d.	5/-
" " *yellow*	10d.	5/-
Forget-me-not, blue	1/-	6/-
Canterbury Bells in sep. colours, white, rose, blue or mixed	1/6	9/6
Iceland Poppies, mxd.	2/6	15/-
Polyanthus, mxd. -	2/6	15/-
Sweet Williams: Pink Beauty Hybrids	1/3	8/-
Golden Alyssum -	2/3	16/-
Hardy Auriculas -	3/-	20/-
Purple Aubrietia, pots	4/-	30/-
Silvery Rockfoils -	4/-	30/-
Graecian Violet -	4/-	30/-

HARDY FLOWERS

Continuous display. **6/-** Carriage paid.

Alkanet, blue	Lupin, yellow.
M'mas Daisy, lil.	Iris, rich blue.
Marguerite, white	Pyrethrum, 1½ft.
Larkspur, violet.	Fleabane, mauve
M'mas Daisy, ma.	Hybrid, C'mbine.
Dragon's-head, car.	Pink Knotweed.
Larkspur, blue	Avens, scarlet
M'mas Daisy, pk.	Catmint, lavender
Red Elecampane.	Blue Bellflower.
Scarlet Campion.	Blue Flax.
Blue Lupin.	Golden Marguerite
White Bellflower.	Mimulus, scarlet
Poppy, Pink.	Jacob's ladder
White Lupin	Speedwell, blue.
Gypsophila.	Double Pyrethrum

Exhibition Roses
SELECTION "B."

24 specially-selected varieties. Assured prize-winners. **15/6** Carriage paid.

Avoca (ht), crimson scarlet 10d.
Bessie Brown (ht),creamy w. 10d.
British Queen (ht), white - 10d.
Chas. Lefebvre (hp),crimson 8d.
Coronation (hp), flesh pink 10d.
Dean Hole (ht), silvery rose 10d.
Earl of Gosford (ht),dk.crim. 10d.
Ethel Malcolm (ht),ivory w. 10d.
Gl. de C. Guinoisseau (hp),ver. 8d.
George Dickson (ht),vel.crim. 10d.
Hugh Dickson (hp), crimson 8d.
J. B. Clarke (ht), crimson - 10d.
Jonkheer J.L. Mock (ht),car. 10d.
Leslie Holland (ht),scar.cri. 10d.
Mabel Drew (ht),canary yel. 10d.
Lyons Rose (ht),shrimp pink 10d.
Mrs. C. West (ht), shell pink 10d.
Mildred Grant (ht),tinted w. 10d.
Mrs. Amy Hammond (ht),ap. 10d.
Mrs. Andrew Carnegie (ht),w. 10d.
Mrs. John Laing (hp), rosy pk. 8d.
Mrs. J. H. Welch (ht), pink 10d.
Mrs. Roosevelt (ht),pale flesh 10d.
Ulrich Brunner (hp),cher.red 8d.

Town Roses
SELECTION "E."

12 sorts proved suitable for growing in smoke.
Immensely successful. **7/9** Carriage paid.

Caroline Testout (ht),sal.pink 9d.
Dr. O'Donel Browne (ht),car. 10d.
F. K. Druschki (hp), white 10d.
George Dickson (ht), crim. 10d.
Gustave Grunerwald (ht),car. 10d.
J. B. Clark (ht),deep scarlet 10d.
La Tosca (ht),silvery pink - 10d.
Mme. Ed. Herriot (per),red 10d.
Mme. Ravary (ht),orange yel. 9d.
Mrs. John Laing (hp),rose pk. 8d.
Mme. Isaac Pereire (b), car. 8d.
Ulrich Brunner (hp),cher.red 8d.

Dwarf Bedding Roses
SELECTION "I."

12 perpetual, free-flowering sorts, of bushy habit.
Surprisingly effective. **8/6** Carriage paid.

A. R. Goodwin (per.),sal.pink 10d.
Betty (ht), coppery rose - 10d.
Dchs. of Wellington, saffron 1/-
Ecarlate (ht), scarlet red - 10d.
Earl of Warwick (ht),sal.rose 10d.
G. C. Waud (ht),orange ver. 10d.
Lady Pirrie (ht),apricot pink 10d.
Mme. Ed. Herriot, red - 10d.
Molly S. Crawford (t),white 10d.
Mrs. A. Ward (ht),Indian yel. 10d.
Rayon d'Or (hb),orange cad. 1/-
Richmond (ht), scarlet - 10d.

HARDY SHRUBS
"Hey Presto" Selection

Suitable towns' small gardens. **6/-** Carriage Paid.

Purple Speedwell, evergreen.
Double Gorse, yellow.
Sea Tamarisk, soft pink.
Spiræa, Anthony Waterer, red.
Spanish Broom, fragrant, yellow.
Graham's Sage Tree, crimson.
Golden Broom, rich yellow.
Crimson Flowering Currant.
Piptanthus, new, from China.
Giant Mock Orange, white.
Starry Daisy Bush, white
Lavender, true fragrant sort.
Hardy Scotch Fuchsia, red.
Golden Forsythia, very choice.
May Broom, very pretty.

For Illustrations in Colour
and descriptions see Catalogue No. 58, issued last season. A few spare copies post free on request.

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175 c, MILL ST., LIVERPOOL

A.B.C. of Rose Culture, 2d.
Booklet of 32 pages; tells you all you are likely to want to know about roses. 2d. stamps with catalogue, order or alone.

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2. If you have any left, help to keep the country more prosperous and self-supporting by increasing food production by planting Apples. No more profitable variety can be grown than Bramley's Seedling, and we can offer stout half-standard and feathered trees, just the trees for extensive planting or cottage gardens, at 18/- per dozen, £6 per 100, carriage paid.

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CLEARING GROUND FOR FOOD CROPS.

TWO 1/- PARCELS FREE.

Twelve 1/- Parcels (or 20 at 6d.) for 10/-; Carriage Paid, Cash with order. (Carriage 6d. extra on Orders under 10/- value.)

All Bulbs guaranteed strong flowering, and of best quality; money back if not satisfied.

1.
20 Emperor Daffodils. 1s.
The finest of the well-known sorts, grandly-shaped and well-coloured flowers; does well indoors or out.

2.
20 Horsfieldi Daffodils, 1s.
Snowy-white petals; rich yellow trumpet; very handsome and early; borders or pots.

3.
25 Princeps Daffodils, 1s.
Primrose and gold; early flowering; specially recommended for borders and beds outdoors.

4.
25 Grandee Daffodils, 1s.
White and gold; a most graceful flower; very hardy; does remarkably well in shade.

5.
20 Golden Spur Daffs., 1s.
Glorious orange-gold shaded citron; most magnificent flower; quite unsurpassed.

6.
20 Sir Watkin Daffs., 1s.
Deep orange frilled trumpet, rich gold petals; a huge success everywhere indoors and out.

7.
35 Barri Narcissi, 1s.
Orange-scarlet cup, golden petals; light, graceful, free-flowering; splendid in fibre or soil.

8.
15 Double Yellow Daffs., 1s.
Huge double, golden-yellow, rose-shaped flowers; excellent all purposes.

9.
30 Double White Narciss., 1s.
Fragrant as a Gardenia; pure translucent white; blooms well into May.

10.
15 Victoria Daffodils, 1s.
A more magnificent flower than Empress; pure white petals, rich gold trumpet; indoors or out.

11
25 Langtry Narciss., 1s.
Dainty lemon yellow cup set in a beautiful star formed by six showy petals; exquisite indoors or out.

12.
20 Double Golden Phœnix, 1s.
The famous Butter and Eggs Daffodil; absolutely tip-top; very hardy and free.

THIS WEEK'S BARGAIN LOTS.
Carriage 5/- paid.
100 Choice Tulips in 5 sorts.
Double quantity, 9/6, carriage paid.
200 Choice Daffs. and Narciss. in 5 sorts
Double quantity, 9/6, carriage paid.
FREE. 1/- Parcel Snowdrops or Bluebells with each 9/6 parcel, carriage paid.
All for cash with order only. Satisfaction guaranteed.

13.
40 Pheasant Eye Narciss., 1s.
Crimson, edged orange cup, purest white petals; flowers often 3 inches across.

14.
30 Ornatus Narcissus, 1s.
Vivid scarlet cup surrounded by snowy-white petals; first-class everywhere.

15.
4 Violet-scented Iris, 1s.
Rich velvety violet with orange throat; deliciously scented; does well indoors or out.

16.
24 St. Brigid Anemone, 1s.
Huge, semi-double flowers in all shades of blue, violet, scarlet, rose, white, etc.

17.
30 Golden Winter Aconite, 1s.
Rich buttercup-yellow with a dainty green ruffle; makes a fine edging.

18.
30 Bluebells (Scillas), 1s.
Do well in pots of soil or fibre; a great success under trees and in other shady places.

19.
25 Double Snowdrops, 1s.
Try these in pots of soil or fibre; they are exquisitely pretty when looked at closely.

20.
30 Single Snowdrops, 1s.
For planting as an edging to other bulbs, in beds, on graves, borders, &c.

21.
18 Golden Button Tulip, 1s.
Bouton d'Or is usually considered to be equal to that "rara avis" — a golden Darwin Tulip; a thing more to be desired than Dumas' Black Tulip.

22.
18 Caledonian Tulip, 1s.
Glowing orange scarlet; like a veritable flame; a gorgeous thing for bedding.

23.
18 Mixed Early Flowering Dutch Tulips, 1s.
These are very scarce indeed; fine for indoor culture in fibre or outdoor bedding.

24.
20 Clara Butt Tulip, 1s.
Most glorious pink, shaded salmon and silver; a huge success indoors and out.

25.
10 F. Sanders Tulip, 1s.
An incredibly dazzling shade of fiery scarlet; a most entrancing colour; huge size; perfect form.

26.
15 Tonnaye Tulip, 1s.
Rich cherry-rose, shaded blush, edged delicate pink, one of the most useful.

27.
15 Laurentia Tulip, 1s.
Deep rosy-pink, shaded carmine, with a startlingly rich blue centre; extra.

28.
12 Mrs. Cleveland Tulip, 1s.
Old lavender-rose, shaded lilac and silver; flowers early; large size and stately habit.

29.
25 Gold Crown Tulip, 1s.
Rich golden-yellow, shaded and flamed scarlet; fine bedding and borders.

30.
15 Gesneriana Major Tulip, 1s.
Brilliant glowing scarlet, dazzling blue centre; one of the most gorgeous of all Tulips.

31.
20 Sweet-scented Tulip, 1s.
T. macrospila has the fragrance of Sweet Peas and a fine crimson-scarlet colour.

32.
10 Inglescombe Yellow Tulip, 1s.
Perfection in form and colouring; deep canary yellow; magnificent.

33.
15 La Candeur Tulip, 1s.
Pure white; very scarce; fine for bedding borders, pots, &c.; good for cutting.

34.
15 Parisian Yellow Tulip, 1s.
Rich yellow; elegant flower; showy and reliable; beds, pots, borders, &c.

35.
20 Cottage Tulips, Mixed, 1s.
A very fine showy mixture, can be well recommended. Special price per 100, 4/6.

36.
15 Darwin Tulips, Mixed, 1s.
Includes a lot of fine art shades; very useful for cutting. Per 100, 6/6.

37.
50 Mixed Daffs. and Narciss., 1s.
Includes many handsome sorts, such as Emperor, Barri. Per 1,000, 18/-.

38.
1 Peck "Bulbost," 1s.
Bees' Famous Bulb Fibre Compost. Sent Carriage Paid with Bulbs of 10/- value.

39.
5lb. "Bulbilizer," 1s.
Bees' Special Bulb Manure, sent Carriage Paid with Bulbs of 10/- value.

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Ready now. 1lb. 1/2; 3½lbs. 3/-; 7lbs. 5/9
14lbs. 10/6, carriage paid.
ONION SETS, 2/6 per lb., post free.

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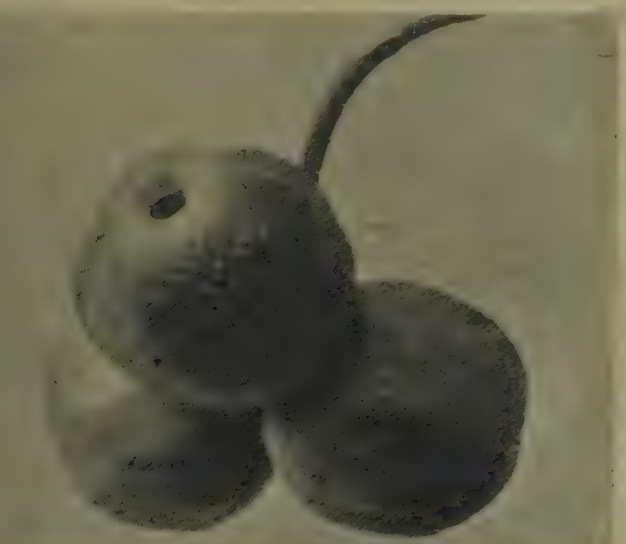
THE GARDEN.

No. 2402.—Vol. LXXXI.] [December 1, 1917.

NOTES OF THE WEEK

THE Japanese Quince is grown as an ornamental shrub in most gardens, and the hard, green fruits are seldom used, yet they are delicious when made into either jelly or Quince cheese. Some connoisseurs are of the opinion that the Japanese Quince is better than the common Quince for this purpose, and in our opinion the fruits



THE FRAGRANT FRUITS OF CYDONIA MAULEI.

of Cydonia Maulei are the best of all. These fruits are generally smaller than those of C. japonica, they are very aromatic, and turn a golden hue when ripe. This year all of the Quinces seem to have borne with unusual freedom, and there are still lots of fruits in excellent condition in gardens that might be put to good use if only sugar can be spared. Delicious jelly and cheese may be made from the recipe under the heading "The Quick Peculiar Quince" in our issue for November 3. We have not, however, found the cheese-making nearly so strenuous as one might be led to suppose from that excellent recipe.

Dutch Brown Beans.—Many readers have written expressing their complete satisfaction with the Dutch Brown Bean, and we quite agree, for it is an excellent cropper and the Beans are superior to the general run of Haricots. The popularity of the Dutch Brown Bean in this country seems to be due to the efforts of the Rev. W. Wilks, secretary of the Royal Horticultural Society, who has distributed seeds to Fellows of the society throughout the land. In Holland this Bean is grown in enormous quantities by all classes of the people, who use the seeds for winter food.

An Unsolicited Testimonial.—Mr. W. Hobby, steward to Mrs. Gordon Canning, Hartpury House estate, Maisemore, Gloucester, writes: "I should just like to add my testimony to the Dutch Brown Beans. I had a few last spring very late for me. They were planted in a piece of ground where Perpetual Spinach had been growing. They had no special preparation whatever. The soil was very heavy, the subsoil stiff clay, and crop. I did not use any of them in a green state, but have saved all of them for seed. I exhibited some of the Beans at the Gloucester Root, Fruit and Grain Show last Friday, and they attracted a lot of attention. As an addition to our winter food I should say they will be very useful."

The Spanish Broom.—This is a very valuable shrub for poor, dry soils. It continues in flower for a long period during summer and autumn, seldom requires any attention, and is perfectly hardy. As its Rush-like twigs are almost leafless, it looks best in combination with other shrubs, and is not particular as to aspect. The seed is ripening now. If this is gathered and dried, it will germinate freely if scattered broadcast, preferably during warm, showery weather in early summer.

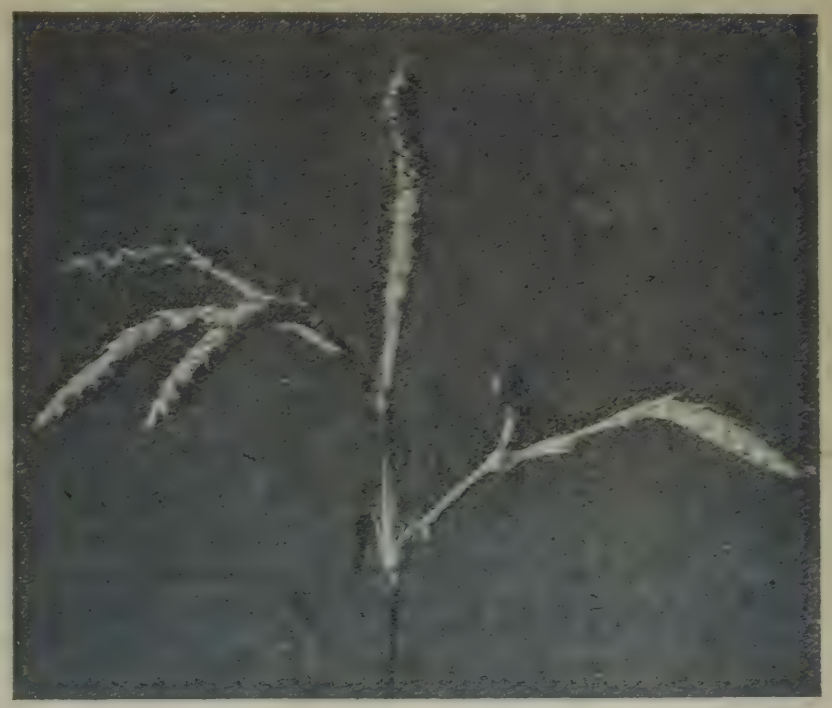
Rose Flower of Fairfield.—This has proved a really perpetual climber, fine clusters of bloom being produced until quite recently. In colour it is rather brighter than Turner's Crimson Rambler, and is considered by some to be an improvement upon that old favourite. It is much like the latter in foliage and habit, but not so susceptible to mildew.

Romneya Coulteri.—Despite a cold and wet autumn and a few frosty nights, the last buds of this fine Poppy opened on November 15 into fully expanded flowers. On the whole, this has been a dismal season for such a sun-worshipper. But the latter has a wonderful way of deferring the opening of its calyces should it be inclement weather at the time of their fulness.

Helleborus niger altifolius.—Much the finest hardy plant exhibit at the meeting of the Royal Horticultural Society on November 20—and seasonable withal—was the grouping of cut flowers by Mr. C. Scrase-Dickins, of this unique form of the Christmas Rose. They were of the pure white variety, which is quite distinct from that usually sold under the name and whose blossoms never lose the reddish purple hue which characterises them externally. Handsome in the extreme, 4 inches or so across, and of the purest white, the foot-long stems supporting the giant flowers were evidence of vigour and of the supremely happy conditions under which they had been grown. Best of its race—if, unfortunately, far from common—it is difficult to conceive anything finer for the garden or for cutting for the house than this, or any plant of the time meriting the best attentions of the gardener, and we congratulate Mr. Scrase-Dickins on his success with this good plant. Associated with the flowers were sprays of the red-stemmed Rubus Polytritis,

Security of Tenure Wanted for Allotment Holders.—As a result of a recent meeting of the Parliamentary Committee, the President and Council of the Royal Horticultural Society have forwarded the following resolution to the Board of Agriculture, together with a covering letter expressing their hearty approval of the same: "The President and Council of the Royal Horticultural Society recommend the Board of Agriculture to give every possible encouragement to allotment holders, both as regards increasing the number of plots and reasonable security of tenure, and they request that the Board will, without delay, take the steps necessary to secure these ends, as, from letters received by the society, great difficulty is being experienced throughout the country in both these directions." A somewhat similar resolution is being sent to the Board of Agriculture by the National Union of Allotment Holders (see page 523).

Be Patient.—The planting season is a busy time for nurserymen in normal years, but the depletion of labour, together with numerous other difficulties, lead one to think that the nurseryman's life is not a happy one. From some of our leading nurserymen comes the request that we should ask readers to exercise more patience than usual. One firm typical of others writes: "Our orders are despatched in strict rotation and with all possible speed, but as we have less than half our usual staff, do please ask your readers to have a little extra patience."



"WHEAT-EARS" ON A PERPETUAL-FLOWERING CARNATION.

Wheat-ear Carnation.—The accompanying illustration shows a specimen of the well-known Wheat-ear Carnation, which was shown before the scientific committee of the Royal Horticultural Society on November 20. This curious formation, where a multiplication of the bracts takes the place of the flower, was known centuries ago, as is evidenced by a note in old herbals.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

POTATOES FROM SINGLE EYES.

FOR the last twenty-six years I have been growing my first and second early Potatoes from single eyes. When I took charge here a year ago I was surprised to find that not a man in the neighbourhood ever cut his Potatoes to single eyes. They had never heard of it, and when I planted mine they laughed at me; but they laughed louder when they saw the crop I

MAY QUEEN POTATOES GROWN FROM SINGLE EYES.

dug. I planted 56lb. of seed in three sorts—May Queen, Duke of York and Sir J. Llewelyn—and I lifted 13¾cwt. I may say that about 150 sets were planted in pots, and so did not get the same chance as those planted outside. I am sending you a snapshot of a few roots of May Queen. I think I convinced a good many about here that it can be done, as several have said they will do it next time. I have just set up my seed tubers on end in the trays so as to get good strong shoots, as I do not let them grow a lot of useless shoots and have to break them off.—W. HOBBY (Steward to Mrs. Gordon Canning), *Hartpury Estate, Maisemore, Gloucester.*

HEAVY CROPS OF ONIONS.

MR. EDWIN BECKETT is, of course, absolutely right (I do not think we often find him wrong!) in advocating the box-sowing of Onions; nevertheless, with a good stock of seed and a well-prepared bed it is possible to get heavy and profitable crops with outdoor sowing. As an instance of this we grew this year 19cwt. on 10 square rods of ground, as against Mr. Beckett's 3½ tons from 47 square rods. The ground was thoroughly bastard-trenched and fairly, but not heavily, manured. The plants started off with a will and "never looked back." The variety was Chelsea Maincrop, from seed supplied by Mr. A. Dawkins of Chelsea. The bulbs are remarkably even in size and shape, firm and solid. James' Keeping on the same ground was very poor and, I think, must have been Californian seed. I strongly recommend Chelsea Maincrop, in spite of its being a member of the flat section.—W. P. W.

PEA GLORY OF DEVON, AND OTHERS.

I CAN fully endorse every word of the praise bestowed on this fine Pea, Glory of Devon, by your correspondents Mr. C. Turner and "J. R. J." I have grown it each season since its introduction, and find it in every way reliable where large quantities of Peas of the highest quality are required. In my heavy, rich soil it grows quite 4½ feet high, and the large pods are invariably perfectly filled with large Peas of the finest flavour. For a thoroughly reliable second-early, commend me to Webb's Senator. This Pea probably carries the heaviest crop of any variety I have ever tried. Its table quality is excellent. Royal Salute, sent out some years ago by Messrs. A. Dickson and Sons, is by far the finest late maincrop here, never failing to give a splendid crop of first-rate Peas. It has the added virtue of not soon turning old. As a latest Pea nothing in this district can come near Dickson's Rearguard. All through October I was daily picking first-rate dishes of this variety, and even into the early days of November. I tried Little Marvel this year for the first time, and truly it is well named, except that the seeds are anything but little. It is a variety of great merit.—C. BLAIR, *Preston Gardens, Linlithgow.*

KOHL RABI.

I QUITE agree that this vegetable should be grown much more extensively than it is now, though in many gardens the root is well represented. This year, in the Southern Counties at least, the caterpillar has worked havoc among the green crops, even garden Swedes being eaten greedily. Kohl Rabi has not suffered much. By the way, it is astonishing the number of people who do not know what Kohl Rabi is. At an exhibition recently a seed firm exhibited a grand collection of vegetables, including Kohl Rabi. A visitor asked the attendant what the particular vegetable was, and, on being told, said, "Oh! I thought it was a Turnip gone mad."—G. G.

JERUSALEM ARTICHOKES.

I SMILED when reading the advice given as to "lifting, storing and planting" the above. A long row of Jerusalem Artichokes (planted in a 2-feet border to hide a high, ugly fence across the end of the kitchen garden) was given into my charge in schoolgirl days to dig and plant, as the cook reported that I brought in a larger number of suitable tubers than the gardener did; and my planting produced a better crop also the following year. All my simple "Amateur" method was this: I dug them up when required (keeping only a small reserve above ground in a primitive clamp in case of hard frost), using a fork, and, *always going down far enough* to lift the *lower* layer of tubers, I usually found some way beneath those attached to the stem. Picking out the best and most even shaped and sized for the cook, I *then and there* put back the smaller ones, some 9 inches apart, and cut up the larger, ungainly ones and replaced them also, breaking up the soil well before resetting the tubers; then covered them with the soil, well broken and beaten down, and *that's all!* They were not tended in any way, save to tie the tall stems back to the fence to keep them from being broken by autumn storms, and they yielded abundantly for some fifteen years.—ANNE AMATEUR.

APPLE BLENHEIM ORANGE.

I AGREE with "T. McP." that this is the Apple I should grow if confined to one. As a cooker it cannot be excelled, especially in these days when sugar is scarce; none is required when using this Apple. As a dessert Apple it has a flavour all its own. If "T. McP." will double-graft the variety on to another stock, he will obtain a regular crop after five years' growth. Again, if he will give the trees space in which to grow and not prune back so hard, he will quickly obtain fruit without the trouble of replanting at all, let alone every year.—E. M.

"THE DROP-SCENE."

MR. GOODWIN'S charming article in your issue of November 17 recalls pleasant memories of days long past, when as my host he took me for some very stiff but enjoyable rides in the beautiful country which he so eloquently describes. We spent two or three very pleasant days, and visited two of the finest fruit farms it has been my lot to see—those of Mr. Best and Mr. Montague Taylor, the latter in that Valley of the Teme which might well dispute with Kent the title of "The Garden of England." But these are ancient memories, of which the details are becoming somewhat blurred, and I have a very recent picture in my mind of the spot where Mr. Goodwin intends to build his "castle," for I had the pleasure of visiting it this autumn, and truly it would be difficult to find a more delightful situation. Any words of mine in praise thereof would, after my host's description, seem somewhat like painting the Lily; but if he can lay out his garden with the same facility that he can use his pen (and I think he can), it will some day be a charming spot, which I trust he may long live to enjoy and develop; for, after all, a complete ready-made garden has no charm for a gardener, who is never happy unless he can be adding here or altering there, pleasures which are often denied to the unduly rich, who want everything spick and span and finished before they take possession.—A. H. PEARSON, *Lowdham, Notts.*

THE TULIP NOMENCLATURE REPORT.

I WAS pleased to read the note on page 489, issue November 17, calling attention to the record of the work of the committee as preserved in the lists of Darwin and Cottage Tulips in this Report. But I must disclaim so great a share of the credit for this work as that note implies. It is true that I proposed we should make this grading of colours the chief work of the two days' conference in the Royal Horticultural Society's Hall, and planned out the lines of the work, but I could never have done it without the help of the British members of the committee, and I greatly wish we could have had our Dutch friends there also to assist. I must have walked many miles in the hall carrying the vases of cut blooms up and down to find their correct positions between the two shades that came nearest them, but I was a very slave-driver in the way I kept my *confrères* running about too, and we all examined the results together several times under varying conditions of light before we finally settled each variety was in its right place, and left Mr. Titchmarsh to make the record of the exact order in which we left the vases. It was work that could not have been done in a garden with growing plants without giving several seasons to it, and it was wonderfully interesting and delightful when the rougher and more laborious part of the classifying was finished and the long lines of colour up and down the hall began to shade along evenly. I have often wished there had been more time, both for myself and the public, to examine and enjoy the finished result. Failing that, we must be thankful that it is preserved to us in these two lists in the Report.—E. A. BOWLES.

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THE CLEMATIS FREED

I FEAR my success with the Clematis has ruffled Mr. Jackman's temper, but I hope he will get over it when he sees the result of the right way. I will answer each point, I hope, without the obscurities, fallacies or other drawbacks of which he accuses me in THE GARDEN of November 17. The reader will please note first that Mr. Jackman is not a grower of the plants in any permanent, established way, but a propagator, and therefore not so well able to judge of effects as those who grow plants to last.

In the nurseries of Europe as I have seen them there is rarely any means of growing the Clematis in the natural or any free way; nor could one fairly expect it. To grow is the work of owners and their gardeners; and nurserymen's work to grow plants for us that will live.

Mr. Jackman says that in the present instance I am only too ready to come to the conclusion that therein is to be found the cause of the "die-back" in Clematis, and in vaunting it as a proof of the correctness of my theory I entirely disregard the fact that the "die-back" also occurs in seedlings and plants raised from cuttings growing on their own roots and ungrafted, as clearly stated in his lecture and proved by specimens shown.

I deny it absolutely; the "die-back" is common in the grafted plants set in pots in nurseries. It does not occur in plants on their natural roots in my collection. The "die-backs," in a word, should not exist.

Mr. Jackman says that if I still maintain that the stock on which the Clematis is grafted causes "the death of the graft in time" and is the reason for the "die-back,"

(1) Will I explain why the scion roots generally increase to a greater extent than the roots of the stock?—I have no "die-backs"; they do not arise in plants naturally grown.

(2) Why the "die-back" does not affect the plant from the union upwards, instead of from the stem downwards?—I do not admit it. Plants as bought here often show the stock with more roots than the scion.

(3) Why, in the case of a shoot dying back, those below it continue to thrive (if not afterwards attacked) and strong new shoots are sent up from above the scion roots?—The question is not clear.

(4) How do I account for plants suffering from "die-back" which have been raised from seed or cuttings?—They do not with me, and there may be other minor causes.

(5) On what grounds do I contend that C. Viticella is not a suitable and natural stock on which to graft hybrids of that type?—The union is too fragile; why use it? The natural root of the Japanese kind is stronger than that of C. Viticella. Mr. Morel uses C. Viticella. I think he is wrong. The plants are never as strong as those from layers. The true way is the stool in the nursery bed, layering into small pots set around; also by cuttings.

Mr. Jackman asks: "Who has ever heard of anyone having ("put" two sets of roots to a fragile plant' of Clematis?" Has not my quarter of a century's experience taught me that the scion is put on one set of roots, and that the scion roots are formed after the union of the scion with the stock?

The question amazes me. In the many plants that have come here from nurseries of late years we wash the balls out and always find two sets of roots as clear as day—the wild plant of the chalk hills and the variety grafted upon it. Any buyer can test this for himself. Therefore it is for those who plant with a view to some lasting beauty and their gardeners to judge of results of any mode of increasing plants. The planter who pays deserves some consideration, and in the case of the Clematis we see a complete absence of the plant in any picturesque or beautiful way. Is this right, either for the buyer or seller? I have proved the practice to be wrong in all ways and wholly needless. Once the public know this, there will be a demand for plants on their own roots. Now, there is not a tithe of them grown, owing to the supposed presence of a disease which in healthy plants does not exist.

Mr. Jackman says that I disregard the fact (mentioned in his lecture) that Mr. W. C. Glover has been able to identify the parasite which is the cause of the disease to be a fungus belonging to the genus Ascocyta, and has also succeeded in transmitting it from one plant to another by inoculation. His views and experiments entirely bear out the conclusions Mr. Jackman had formed as to the nature and development of the disease.

Mr. Glover is wrong. The fungus arises in the dead plant as dead fungi arise in all dead animal and plant matter. I do not suffer from the malady induced by wrong and needless ways

TWO SETS OF ROOTS ON A GRAFTED CLEMATIS.

of propagation. No observer of what goes on in gardens can but deplore the fact that vast injury has been done to plants by the use of stocks for grafting—the Manetti, a coarse Rose; the Privet, a mean, shrubby weed fœtid in flower, which not only kills the plant it is supposed to nourish, but infests the earth with its own evil presence afterwards; the Quince, a good shrub misused to graft the Pyracantha and other shrubs, which it usually kills. The native Clematis of the chalk hills is in the same class—an evil thing out of place as a stock. This is the plant that has robbed the gardens of our isles of the loveliest climber of the northern world. Mr. Jackman appears to have given it up, and leans to the fragile and graceful C. Viticella, which has graced a hedgerow round my orchard for years. But it is more fragile at the root than the nobler Clematises with their giant yellowish roots. The union of it with the large kinds, like lanuginosa, is not good, and is proved here by the loss of some of Mr. Morel's beautiful seedlings. Can Mr. Jackman or anyone give any reason for grafting plants, so easy to increase from layers and cuttings, on a plant of a different kind and climate to their own? Surely such a practice should not be followed unless the natural ways fail; and anyone can prove that it is no more necessary to graft a Clematis than a Raspberry.

It is a long time now since I saw Mr. Jackman's grandfather in his nursery—before the young men sought the rough climber of the Surrey and Wiltshire hills, and when the good way of layering from the stock in the open ground was the rule. I hope that when Mr. Jackman sees the results of the right way of increase he will get such a stock of these beautiful plants that I must go and see them. In that case he will, I believe, find the demand for them tenfold to what it is now, when one often sees large gardens without any trace of their beauty.

As to C. hakonensis, the fallacy of which he accuses me is not mine, but the statement of a French gentleman, in whose garden at Segrez and in whose book are the best illustrations of the plant. The subject is of such interest that I hope to deal with it in full in another paper. Mistakes are common with botanists as well as with gardeners, and the clearing of them up can do no harm. Meantime, I am writing to Japan to get the true native type of these precious plants, and hope to grow them here.

The idea that the Clematis is a delicate plant, subject to mysterious parasites, is a delusion, arising through the death of plants from wrong ways of increase. Look at the poor plants in any nursery in France or England, all grafted, standing in pots, in the worst imaginable condition for a healthy natural growth, and say if those who practise this way are right.

Instead of the plants being delicate and subject to hopeless disease, I find them the hardiest and stoutest of all climbing plants. Lectures and writings on the maladies of these plants that shut out all mention of what the plant did on its natural roots might well be used by Dr. Charles Mercier as an example of non-reasoning, a total absence of common sense. Instead of the feeble plant it is supposed to be and the subject of incurable disease, the queen of the flower garden is as vigorous in growth as it is beautiful in form and colour.

I went round with friends on November 17—at a date when the last gold had fallen off the Field Elm and the leaves off the Tea Roses—to see the state of the Clematis on that day in various positions—on walls, north and south sides and on the top, on pergolas, on Oak fences, beneath and clambering up trees, on tripods and in the flower garden. Leaving aside as never troubled by disease the Mountain Clematis, fragrant autumnal

and small kinds like C. Viticella, we found most of the large-flowered nobler kinds in robust health without a trace of any malady. I hope it will be seen by all who read that this is not a matter of theory but of clear fact. My garden is open to all one day a week and at all times to lovers of these plants.

Gravetye, Sussex. W. ROBINSON.

GROWING VEGETABLES FOR THE FRENCH ARMY

THE Editor of *Country Life*, having made a recent visit to France, describes in the pages of his journal the efforts that are being made by France to supply her soldiers with vegetables. From his impressions it is evident that the work has been carried out in haste and with due regard to labour and expense; but for all this the scheme has proved a brilliant success. The question is naturally asked: What are we doing to provide fresh vegetables for the British soldier? A strong plea is made for the appointment of a Director of Food Production for our troops in France. It is hoped that the time is not far off when a qualified horticulturist, who is also a good organiser, will formulate a plan and carry out the cultivation of vegetables in France. We wish all speed and success to the suggestion made in *Country Life* that a Head Director of Food Production should be appointed in France for the whole Army, and under him sub-directors for each individual Army.

"The scheme already accomplished for the French Army owes its inception and birth to the studious and practical mind of Lieutenant Georges Truffaut, whose name is familiar to English gardeners. Before the war he owned and edited *Jardinage*, one of the finest gardening periodicals ever issued.

"At the moment it will be enough to give a broad outline of the scheme. The work was only set going in April, and involved some reclamation at the outset. Vegetables were grown in the Trianon Gardens before the war, but for three years the ground had been neglected and allowed to lapse. How to get rid of the weeds and bring the ground speedily into a cultivable condition was the first problem. Expert gardeners will need no telling that land with such a history was bound to be infested not only with weeds, but insects. In France, as in England, the latter were very prevalent during the year, so much so that it was difficult to raise Cabbage seedlings, to be replanted, so as to stand out all the winter, on account of the ravages of the Turnip fly. Lieutenant Truffaut found an easy and effective way out of the difficulty. Interested as he is in English experimental work, he was thoroughly familiar with what Dr. Russell has done at Rothamsted in his sterilisation experiments. The knowledge thus acquired was applied with happy effects to the growing of seedling plants. Let the reader realise that 25,000,000 plants have been raised here between April and September, and his imagination will easily clothe the ground and fill the beds between their alleys with their green inhabitants. It was impossible to conceive anything fresher or healthier. Lieutenant Truffaut attributes his success largely to an application of Dr. Russell's experiments at Rothamsted, which also had the unexpected effect of enabling him to do without manure. His method of cultivation after the usual preparation of the ground was to give a dressing of bisulphide of carbon. This not only checked the insect pests most successfully, but acted as a most effective stimulant to growth. Readers will like to know that the material was obtained in liquid form and applied through the watering-can an hour before sowing. Its effects were manifested by contrast with a control plot which had not been treated with the bisulphide. On this the ravages of the insects were shown in leaf and plant—often in the absence of the plant, which had been entirely devoured. The sowing was done by machine and in drills, which—this again being proved by a control plot—gave far better results than sowing broadcast. He attributes this in great measure to the regular depth of about half an inch at which the drill sowing was done by machinery, and the necessarily irregular covering of the seeds sown broadcast. Watering was carried out systematically and consistently, partly by watering-cans and hand labour, partly by the use of an admirable mechanical contrivance.

FOUR ACRES OF ONION AND CABBAGE PLANTS. (*Photograph taken in September.*)

What have to be considered just now are the economies effected and the extent to which they are practicable in case it were thought desirable to adopt a similar scheme behind the English lines. Let it be remembered that the

TONQUINESE WORKING IN THE TRIANON GARDENS, VERSAILLES.

production amounted to 25,000,000 plants, and that the plants were chosen as being particularly suitable to the needs of the French Army. They consisted of varieties of Cabbage to the number of 6,367,000; Onions were grown in huge quantities, and were still being sent out at the beginning of October. Very strong and forward plants they were. Of the famous Paris Onion no fewer than 7,200,000 were sent out. It is very highly favoured by the French, who prefer a white, medium-sized Onion to the Giant Rocca and Ailsa Craig favoured in this country. It comes to table about May. Another popular white Onion is the Oignon de Vagirarde, of which 1,900,000 were sent. The red Spring Onion de Niort was sent out to the extent of 1,800,000. Onion and Cabbage plants were monopolising attention in September and October. Earlier in the year other vegetables had been grown, such as Leeks; 5,424,000 Endive, Curled and Batavian; 1,836,700 Cauliflowers, Broccoli, Kohl Rabi, Celery, Tomatoes, New Zealand Spinach, and so on. Lieutenant Truffaut recommends the last especially for its vigour and productivity. It was growing well at the time of the visit referred to, and lasts till the first keen frosts.

"**How the Labour Bill was Kept Down.**—This was approached in the true spirit of economy. We in England appear to believe that money can do everything; our French Allies hold that its wholesale expenditure can be avoided by a use of mother wit. Soldiers were employed at the rate of pay they receive on the field, and they accepted this small remuneration because they liked the work and knew that the plants were supplied to their brother soldiers free of charge. This is a spirit which ought to be emulated. In the British Army are thousands of garden enthusiasts who would take a delight in growing vegetables if the plants were found and they were convinced that their doing so would be for the common good."

ON APPLE EATING

I AM sending you a short note on Apple eating from the *British Columbia Fruit and Farm Magazine*. The article might have been headed 'Eat Apples and Live for Ever!" T. H.

"Do you know what you are eating when you eat an Apple? You are eating gallic acid, one of the most necessary elements in human economy. You are eating sugar in the most assimilable form, combined carbon, hydrogen and oxygen caught and imprisoned from the sunshine. You are eating a gum allied to the 'fragrant medicinal gums of Araby.' And you are eating phosphorus in the only form in which it is available as the source of all brain and nerve energy. In addition to all these, you are drinking the purest of water and eating the most healthful and desirable fibre for the required 'roughness' in food elements. The acids of Apple diminish the acidity of the stomach and prevent and cure dyspepsia. They drive out the obnoxious matters that cause skin eruptions, and thus are Nature's most glorious complexion makers. They neutralise in the blood the deleterious elements that poison the brain and make it sluggish. The contained phosphorus is not only greater than in any other form of food, but it is presented in a shape for immediate use by the brain and nerves, where it may flash into great thoughts and great deeds. The ancients assigned the Apple as the food for the gods, and its juices the ambrosial nectar to which they resorted to renew their youth. Men are the gods of to-day, and the Apple is their royal food, the magic renewer of youth. Eat a rich, ripe Apple every day and you have disarmed all diseases of half their terror."

THE CULTURE OF FRUIT TREES—VIII

(*Continued from page* 492.)

NUTS.

"And an oaken fire i' the winter days
With Chestnuts roasting at the blaze
And puddings in the Pot
As little care I for the wintry sky
As the toothless for Nuts when porridge is by."

THE association of Nuts with jollity seems to be old: from the merry gatherings of youth, when the Hazels were gaily plundered, to their post-prandial appearance with the port wine, Nuts are surrounded by pleasant associations. It is true that latter years have bred a race to whom Nuts are of more serious import, folks who contrive to make them a substitute for almost every product of farm and field. After a comfortable meal we are told with reproachful looks that six Walnuts are equal in calories to a pound of steak—or thereabouts. But both these classes will agree that more can be done in the planting of Nut trees. There is no fruit that will so cheerfully pick up a living on a dry and stony bank as the Cobnut and Filbert; and shade trees in the park might well be Walnuts or Chestnuts, instead of the infructuose Lime or Elm.

A TWELVE YEAR OLD NUT TREE IN THE BASIN SHAPE.

An idea exists that Cobnuts and Filberts will not grow well out of Kent—a wholly mistaken one, be it said. On any limestone rock Nuts will do well, and if by a tradition of hard pruning we produce in Kent larger Nuts than elsewhere, this is a matter easily to be remedied. Even if not pruned in the severe Kentish manner, Nuts will fruit well and make up in quantity what they lose in size.

Filberts are not so much planted now as formerly, the robust and hardy Kentish Cob having largely displaced them. But it is likely, I think, that their infertility is due to the fact that in many years their flowers open before the catkins are ready to shed their pollen. The last season saw a good crop, due, I fancy, to the fact that the flowers, both male and female, opened together. If, however, we interplant with a variety which develops its catkins early, such as Pearson's Prolific, this opinion could be tested. The old Kent Filbert and its red-skinned variety are extremely good in flavour, and well worth a little trouble to lead them to success. Of the Cobs, the Kent Cob is the most widely grown, and, though good, it is not quite the best for flavour, Duke of Edinburgh being my choice for this position. It is a handsome fruit and a fair cropper. Pearson's Prolific is good and does not belie its name, and Cosford is also to be included for its flavour and prolific crop of catkins. The Frizzled Filbert is a prodigious cropper and ripens some weeks before other kinds are ready. It is not generally known that Nuts do well as cordons, and are so very easy to prune and keep in shape. I know of several Nut pergolas and arches made by bending such trees over paths, and they are a great success. Here is a way to economise space! Plant the cordons at the edge of the path and train them over wires or pleach them, thus using the sun which falls idly upon our gravel walks! Should the soil be scant of lime, the necessary addition must be made. But, above all, Nuts should be planted on stony banks and disused quarries; they will cling on to them by their "eyebrows" in a way that would make an experienced alpinist envious, and thus steep slopes can be brought into service as food producers without displacing any useful crop.

Walnuts.

The Walnut tree in the farmyard is to my mind one of the pleasant sights of winter; its grey, corrugated bark shining in the sunlight always has a cheery look. Owing to the great difficulty of grafting and budding Walnuts, they are raised from seed; and though, when from selected trees

of good quality, they come nearly true to type, they cannot always be relied upon to reproduce their parents' good qualities. The only way out of the difficulty will be to adopt a plan which I always use when eating baked Pears. These fruits are, as everyone knows, very unequal, and it nearly always happens, by some dispensation of Fate, that the second is worse than the first. The correct method is to try one, and, if good, to put it on one side and eat the second first. So with Walnuts. Let us plant two trees instead of one, and the least good then be cut down if it proves unworthy. A word of caution may be here inserted against the very large French Walnut which is often seen in shops. Though imposing in appearance, it is also imposing in other ways. Rarely does it fill its large shell, and seldom does it keep for more than a few weeks. The French name, "à bijou," denotes its value in their eyes.

Chestnuts.

Spanish Chestnuts, though trees of more Southern lands, do well in this country in a well-drained loam, and produce edible fruit in many seasons from trees ten years old and upwards. I am testing some American varieties which are reported to fruit at the age of two years, and if they so behave in this country we may have bush trees in our gardens among the Apples and Pears.

I have mentioned all the Nuts which can profitably be grown in this country, but there are perhaps others which might be tried.

American nurserymen are now booming hardy Pecans, and some have found their way to my trial garden, where they grow slowly, but do not, I fear, show much promise of making such trees as they do in the States. Dr. Johnson advised gardeners to "never grow a thing to show that you could not have it." Gardeners are, however, hopeful beings and always willing to put a small stake on the off-chance, and I therefore still cherish my Pecans, despite the learned lexicographer.

E. A. BUNYARD.

The Californian Lilac

AMONG the many species and hybrids of Ceanothus now in cultivation, few are more lovely than C. divaricatus and few more admirable when growing in bush form. The accompanying illustration shows this attractive shrub on its "native heath"—the foot-hills of the more southern Sierra Nevada, which in early spring are covered from base to summit with the incomparable blue of this sweet-smelling "Lilac." C. divaricatus, which is an evergreen, has proved hardy enough for our Western Counties even as a bush. Last winter treated it roughly, but, by cutting back, the little trees soon made fresh growth. Good soil is not an essential, provided it is sunny and dry. Where Gorse and Brooms thrive the Californian Lilac should be happy, but it should never be trained against a wall when it can be grown in the open as a shrub. The foliage is a rich glossy green, affording a fine setting for the cold blue of its crowded panicles of bloom.

A. T. J.

A Pretty Plant for Quickly Covering Arches

THE mention of Cobæa scandens by the Editor on page 439 of THE GARDEN for October 13 reminds me how little the usefulness of this plant is appreciated by present-day gardeners, more especially those who have arches, trellis-work, or some unsightly object in the garden which during the summer-time they are anxious to cover cheaply, quickly and effectively. Several years ago we had half a dozen arches well covered with both the white and the purple varieties of this, and it is no exaggeration to say that from August until the end of the autumn these arches aroused more curiosity and favourable comment among visitors than anything we have yet grown. Many were the times I was called upon to give the name, also the treatment of the plants, and equally many were the times when the names were dotted down for future growing; yet, strange to say, very little success rewarded the sowers, the fault resting not in the seed, but in the manner it was sown, this requiring to be inserted on edge exactly as is usual when sowing Melons or Cucumbers.

Early in March is soon enough to sow, the heat of an ordinary greenhouse being sufficient for raising the plants. If the seeds are sown in pans and not less than 2 inches allowed between them, no disturbance of the soil need be made until the plants are ready for "large 60's" or 4-inch pots; and if a second shift is given before the plant gets potbound and a place given it under glass until the end of May, it may safely be planted in the open garden, always giving a good rich soil and plenty of moisture during dry weather. It soon settles down to rapid growth, and becomes more ornamental each week.

One never sees it recommended as a self-clinger for walls, and doubtless it would be of little use against an ordinary brick wall without support; yet on several occasions I have planted it against what is known as a "roughcast" wall, and found the tendrils cling as tenaciously to this as do many better-known plants.

F. R. C.

CEANOTHUS DIVARICATUS IN ITS NATIVE HABITAT.

A POT-POURRI ABOUT ROSES

THEIR INTERESTS—THEIR HISTORY—THEIR AFFAIRS.

BY THE REV. JOSEPH JACOB.

GOODNESS knows what a gardener should not be if he is to be that all-round person who is in my mind. I know it is an unattainable ideal that I picture, for if the nomenclature of a single family was sufficient to disturb the mental equilibrium of a Robert Sweet, it is utterly inconceivable that such a gardener as I have above postulated should ever exist. Let us take Roses alone. Let us take that specialised branch of gardener whom we call a rosarian. Just to take the first thing that comes into my head. Is Easlea correct in calling his garden Danecroft Rosery? A friend who has the eye of a hawk for inaccuracies of spelling saw Easlea's list on my writing table. "Hello! What have we here? Is that right?" pushing the list towards me with his finger under "Rosery." We could get no satisfaction from reference books in my small library, so he took the case to a higher court—the Free Library at Liverpool. A few days afterwards a letter came: "*Rosery* is quite correct, but so is *Rosary*." Even to do such an ordinary thing as to name our Rose patch we need to be something of a philologist. Suppose, now, we take it in our heads that we would like to know something of the literature of the Rose. To begin with, we ought to be able to read Spanish, for I believe the standard bibliography is in this language. How many more languages we ought to know I dare not begin to add up. Doubtless Persian would be included, for was not Persia one of the homes of the Rose?

"And 'mong the groves of far Cathay
The Persian Hafiz' accents rang."
—"The Rose."—S. B. PARSONS.

Did not Attar, too, in his "Bulbul Nameh" (or "Book of the Nightingale") make the wise King Solomon acquit the bird for singing so much and so loud because his love for the Rose drove him to distraction? Again, were we more historically inclined, to take one single place and period—Rome in the days of the Cæsars—Martial, Seneca, Cicero and Pliny all have something to say about the Rose. Once Rome was glad to get winter Roses from Egypt. Then, with the adoption and improvement of greenhouses they were able to provide their own; so much so, in fact, that a present to the Emperor Domitian on his birthday in the middle of the winter, instead of being taken as a splendid compliment, excited only "ridicule and disdain."

"Mitte tuas messes, accipe, Nile, Rosas."
—MARTIAL, lib. VI., epig. 80.

"Mea rosa." "Sub rosa."—These are suggestive expressions, for they remind the historian that, like so many human beings and families, the Rose has a skeleton in its cupboard. We associate it with war in "The Wars of the Roses"; with

ure for hydrophobia; with perfumes in the world-renowned attar, once valued at five times its weight in gold; but we must not forget that in the heydey of Imperial Rome the Rose was put to unworthy uses and for a period became the symbol of Sybaritic selfishness and sensuality. Pliny records how Lucius Fulvius, during the trying times of the second Punic War, ostentatiously exposed himself in the Forum wearing a chaplet of Roses and was "by authoritie of the Senate committed to prison and was not enlarged before the end of the warre."—Holland's "Pliny," Part II., page 83. The Rose in several ways is a "paddlebox," as Mrs. Malaprop might say. Among the flowers of the field none is more ancient; none has been for a longer period the friend of man—it shares its antiquity in this with the dog; yet no flower is more modern. English and French hybridists have within the last seventy or eighty years given us a Rose for almost every purpose of the garden. Even within the memory of a young lady the change has been phenomenal; and what gaps there are which bid fair to soon be filled up! What a vast difference there is between what was possible in 1682, which was the year Samuel Gilbert first issued his "Vade-Mecum," wherein is a list of the varieties to be found in English gardens. Under Yellow Roses he enumerates four, viz.; the Yellow Austrian Briar, the Copper Austrian, and two doubles. "I know of no other Yellow Roses," he says. Yellows are more uncommon than either pinks or reds, but, compared with Gilbert's list, a modern catalogue with its Lady Hillingdons, Rayon d'Ors, Danaës, Duchess of Wellingtons, and its Irish Elegances would make old Samuel Gilbert rub his eyes with wonder. No longer could he say that "July-flowers are indeed the Summer's glory." The pride of place has been taken by the Rose, which to-day has no serious rival unless perchance the little cloud like a man's hand rising from the Pæony gardens of America may be taken as a threatening of her supremacy. However, this old new-comer cannot climb; cannot clothe the pillars or pergolas, if this last-named feat of the Rose be something to be copied in British gardens; cannot become diminutive Jessies; and therefore wanting in adaptability, which is one of the supreme tests by which the Rose takes her place as the natural companion of mankind. When I go in for a self-examination of my thoughts about the multitudinous occupants of a modern English garden, notwithstanding my love for other flowers I am constrained to acknowledge that I look upon the Rose as one looks upon bread: one the prime necessity of life, the other of the garden.

What is the outward and visible sign of the Rose modernity? The issue of a Rose number of THE GARDEN in the commencement of the fourth year of the Great War? This speaks volumes, but it is not what is in my mind. I was rather thinking of the existence Reynolds Hole, nurtured by Edward Mawley, watered by the gracious and never-failing presence of our own Rose Queen—Queen Alexandra—at the annual summer shows, it has grown and spread until it has become a mighty power in the world of flowers; and unless I am greatly mistaken about the mind and energy of him on whom has fallen a double portion of Mawley's spirit—the present secretary, Courtney Page—it will go from strength to strength. A National Rose Garden; a Rose Library; a Rose Museum—these are the dreams of the dreamers of to-day. *Somehow* I think when the much wished for peace comes they will materialise.

CLEMATIS ARMANDI AT MYDDELTON HOUSE.

THE DROOPING CLEMATIS

(C. NUTANS.)

THIS is not one of those Clematises "à grandes fleurs" (as our French friends say), but a species from Western China that flowers freely from August to October, and is so sweetly scented *at night* that all the moths of the neighbourhood seem to be attracted by it; and if you go out with a flash lamp after dark you will find scores of them hovering round the drooping, greenish yellow, campanulate flowers, which evidently contain some kind of nectar. At a distance the clusters of flowers look like Hops, but by the end of October the flowers are over, and now in mid-November the plant is covered with seed-pods that will not

would like a young seedling I shall be happy to make an exchange with them for something that my garden does not yet contain. It grows about 15 feet high here, and should be cut down to the ground each winter. Clematis nutans, C. Armandi and C. repens are certainly an interesting trio. ARTHUR R. GOODWIN.

Boscombe, Kidderminster.

CLEMATIS ARMANDI

BY E. A. BOWLES, M.A., F.L.S.

THIS is one of the century of certificated plants introduced from China by Dr. E. H. Wilson. It gained its first-class certificate in 1914, when it was shown in flower from Aldenham, and therefore, almost needless to say, in the finest possible condition. Even if it had not been so well grown and treated *en prince* from a plant's point of view, or had been shown without its bunches of white flowers, I maintain it would deserve its award every bit as much as the other ninety-nine plants recorded in the Journal of the Royal Horticultural Society for October, 1916.

It is one of the most distinct of hardy climbing plants by reason of its handsome leaves. At first sight they suggest some tropical Passion Flower rather than a Clematis, yet they took no hurt here last winter—a very good test, surely, seeing they had to face 29° of frost and a week of wind that browned Yews and Ivies.

Then again, it is an evergreen, and almost as handsome in midwinter as at midsummer, and only more beautiful then because of the contrast of the old and new growths. The dark olive green of the old leaves sets off the rich yellow green of the young, and as the shoots are a yard or two long, there are many beautiful shades of green along them. It does not show its true beauty until it is allowed to produce hanging growths, and the finest effect is not obtained until the shoots of three seasons are forming the fringe.

Evergreen climbers are so rare, and, excepting Ivies, generally look rather woe-begone when the winds of March are worrying the Bamboos and scorching Choisya ternata. This Clematis laughs at the biting blast and pushes along its flower-buds, developing emerald green bracts among its oldest and most sombre leaves, and the contrast is as fine as that of the pale flowers and almost black leaves of Helleborus fœtidus. The flowers appear in April here, and the earliest to open are rather small and greenish; but if a spell of warm weather permits they make a good show, and those that come at the end of the month are in most seasons almost white and of a good size. The seeds ripen in July, and look rather like pale green spiders with long and hairy white legs, and before they have all fallen we get a second blossoming, not so general as that of spring, but lasting on in little bursts here and there till the sharp frosts come. So I say this Clematis pays rent all the year round in beauty and interest

SOME NEW BORDER CARNATIONS

"WHAT is the finest new border Carnation of the year?" This is a question one grower likes to ask of another year by year, and the interest of it never dies. To answer it in my own way I would give place of honour to Mr. Douglas' new white self Purity. I think it is the best white ever given to the public, and I am not forgetting the admiration we all accorded to Furthest North and Bookham White in their respective years. I have still a very great affection for Bookham White, for, while exhibitors never tire of reminding one that it is a cream white, it is so only to the captious eye, and it is nigh perfection in shape and size, with a substance in the petal that builds up a magnificent bloom. Purity, however, is all that also, and at the same time entirely satisfies that captious eye as regards colour. Is there any more that can be said of higher praise?

I am not going to place the novelties in order of merit beyond Nos. 1 and 2, and the second place I give to Peach Blossom. This is one of Mr. Douglas' wire-stemmed breed, a fine healthy grower with abundant grass and a flower of unique colour. It is self-descriptive, but there is something more in it than the colour of Peach blossom, and I cannot put it into words. Every reader who can, however, will bloom it for himself next year and make his own story of how the colour strikes his eye. Colonial is another very attractive flower, having, like Peach Blossom, a suggestion of lilac, but with more of a pink blend or salmon shade in it than the last named. Admiral Beatty I have not seen in flower, but its description of bluish lilac with salmon base to the petals sounds quite out of the ordinary. Sunbeam is after the style of Border Yellow, an excellent doer out of doors and longer in flower than most of the yellows. Carnation lovers must possess their souls in patience for another year before they can procure that new Edenside masterpiece, Narcissus. This will certainly be the best yellow since Daffodil saw the light, and may even prove better than that great prize-winner.

Mr. Douglas has taken endless pains during the last few years to improve the Old Clove so dear to the hearts of our grandmothers. He has now a trio of perfect calyx flowers in Bookham Clove, My Clove and (latest of all) Surrey Clove. The last named is offered for the first time this year, and I can testify to its wonderful scent. It is deeper in colour than Bookham Clove, being more of a maroon shade, and will do well in the open border or on rockwork.

At the Carnation Show this year I was greatly attracted by The Grey Douglas, and immediately put it down as the finest of all the heliotrope shades yet introduced. It is rather deep in colour, overlaid with a metallic sheen, perfect in shape, and, withal, sweetly scented. Mr. Douglas tells me the plant has a good habit, with stiff flower-stems, and I am sure it will be in great request. The last on the novelty list from Edenside is a fancy bearing the name of The Jester. I have not seen the flower, but I expect it is the beautiful formation of the petal which has earned it its place. In my own seedling bed this year I had a flower of similar description (crimson and scarlet stripes on a coral or salmon ground) of such shapely form that I had not the heart to discard it, so I took three layers to try it under glass next season.

One of the best new fancies is a fine yellow ground marked heavily with bright purple, and known as Melba. I referred to it in my show notes a little time back, but I might remind exhibitors that it is a flower to note and purchase. General French, an excellent new scarlet self; Hilda Blick, pink; and George Robey, a white-ground fancy, should also be added to any up-to-date collection. I think all of these come from Mr. Blick of Hayes.

Of the newer varieties, not now actual novelties, I would like to mention Fair Ellen, which was particularly good with me this year. It has a pure white ground with dainty lavender markings, and is first-class for size and shape. It is also a persistent bloomer, and even on September 28 was opening new buds of good substance. Fiery Cross, a big, robust grower, is a good solid scarlet self standing full sun without scalding; while Induna has proved one of the finest dark selfs yet sent out. Rosetta (rose pink self) and The Dawn (an apricot-ground fancy heavily marked with rose pink) have also proved first-class. Prairie Belle, which I prefer to know as Bellfield White, is a good exhibition pure white, but it has not very strong lasting powers, and must be caught just right for show day.

Mr. Brown of King's Norton showed a new white-ground fancy in London this year named Betty which struck me as a fine flower, but I do not know whether he is sending it out yet. Brilliancy is another product from the same grower. If it was shown at the Drill Hall in July last I must have overlooked it, but Mr. Morton has kindly given me its description. It resembles Queen Eleanor, raised by Mr. Douglas, and sent out, I think, in 1910. If anything, the scarlet markings of Brilliancy are a trifle brighter than those of the older flower, so I should judge it must make a handsome and bright-looking bloom.

Layers and plants should be ordered without delay, and if grown in the open, should be got in as soon as possible so that they will be thoroughly well rooted before hard winter weather arrives.

J. L. GIBSON.

CARNATION BORDER YELLOW (TYPE OF SUNBEAM.)

BOOKS

American Indian Corn.*—To the English reader this book on the uses of Maize meal and flour is a surprising revelation of the many pleasant ways in which it can be prepared for food. It is a grain that has long had the character of being overheating, but in modern processes of milling much of the oily constituent is removed, with the result that it is one of the most wholesome of grain foods; an adequate substitute for Wheat at less than half the cost. It is further said that in the case of persons whose staple food is of Maize products, dyspepsia is unknown, and in those who have long been sufferers from this distressing disorder a cure may be effected by its persistent use. It appears that, except in the case of the refined preparations sold in packets as corn flour, meal or flour for ordinary use is not yet fully available to the English consumer. It is to be hoped that the question of proper milling may be taken up in order that we also may have the benefit of some of those excellent things whose clearly written recipes are contained in the book. They include every kind of bread, cake, biscuit, muffin, porridge and pudding, besides numerous appetising dishes prepared from green and Sweet Corn, the fully formed but unripened grain. In the older days we read: "The green ears, roasted on the hearth, or by the burning heaps in the old-time clearing, or cooked by being buried in the hot embers or ashes, made many of the long remembered and toothsome feasts of the pioneers of the forest." The green Corn

* "American Indian Corn: 150 Ways to Prepare and Cook It," by C. J. Murphy. Published by G. P Putnam's Sons, New York and London. 7s. 6d. net.

was also cut from the cob and dried in the sun or by the fire for a winter supply. "The hominy mortar is now only a tradition." To our grandfathers and more remote ancestors it was a beautiful reality. In its most substantial and effective form it was made by excavating a large and deep bowl in the top of an oaken stump. The finishing touches were made by fire, and when with great patience it was smoothly finished, it was a work of art. The pestle to this huge mortar was of hard wood, rounded on the end, sometimes tipped with an iron wedge, and suspended from a spring-pole over the mortar. By means of this implement the hulls were beaten and worn from the flinty grains which were more or less broken in the process, and the resultant product was called hominy. The word is a corruption of the Indian name for parched Corn. Hand-made hominy was bought as a luxury after the grinding mills made the cheaper article a common food.

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATE.

Brasso-Lælio-Cattleya Lady Manningham Buller (B.-C. Digbyano-Mossiæ var. Queen Alexandra × L.-C. Ophir).—This epoch-making novelty, apart from its outstanding excellence, has the unique distinction of being the first all-yellow trigeneric hybrid yet produced; hence may prove to be the progenitor of great things in the not far distant future. With sepals and petals having an exceptional expanse, the whole flower is large and of handsome proportions, the shapely, well-poised lip adding appreciably to a fine presence. Coloured a golden canary in the main, the fringed lip pales into softest primrose at the side margins and assumes a richer golden hue at the base, the prettily waved petals adding yet another touch of beauty. The advent of this remarkable plant, raised by Messrs. Armstrong and Brown, Tunbridge Wells, was marked by the rare award of a silver-gilt Lindley medal in addition to the first-class certificate.

AWARDS OF MERIT.

Sophro-Lælio-Cattleya Anzac var. Vesuvius (S.-L.-C. Marathon × L.-C. Dominiana).—An exceptionally large form having ruby red sepals and petals and deep crimson lip. From Messrs. Charlesworth and Co., Hayward's Heath.

Odontoglossum General Allenby (O. crispum nigrescens × an unrecorded hybrid).—A particularly good dark form, almost wholly of dark chocolate in the sepals and petals, the lip being heavily tipped with white. Shown by Messrs. Flory and Black, Slough.

Chrysanthemum Princess Mary (a sport from Queen Mary).—A big golden yellow exhibition Japanese. From J. B. Fortescue, Esq., Maidenhead (gardener, Mr. C. Page).

Chrysanthemum Brilliant.—A handsome decorative sort coloured a rich crimson, the florets having a golden reverse. The varietal name is well merited. From Messrs. H. J. Jones, Lewisham, S.E.

Primula Eureka Hybrids.—In this case the award was given for the strain, which is of a high order of merit. Sent by Adeline Duchess of Bedford, Rickmansworth (gardener, Mr. John Dickson).

The foregoing were shown before the Royal Horticultural Society on November 20.

Gardening of the Week

FOR NORTHERN GARDENS.

Fruit Under Glass.

Pruning Vines.—All Vines should be pruned as early in winter as possible, not only because pruning now forwards work, but also because it is a valuable promoter of strong growth in spring and, moreover, is a certain remedy against bleeding. Old Vines yield the best results when not too closely pruned; and a good deal depends on the nature of the soil whether very close pruning or, on the other hand, a less rigid system is pursued with young Vines as well. It may be probable that leaves are still retained on some Vines, but at this date no harm will follow if these are ignored and pruning carried out.

Cleaning the Rods.—It is essential to strip off bark only in instances where mealy bug is known to be present; otherwise only bark that is loose should be removed, and the rods subsequently scrubbed with hard brushes moistened with a solution of Gishurst Compound of a strength of 8oz. to the gallon of water. This is also a perfect remedy for mildew where bad management has allowed it to gain a footing. By no means be induced to employ petroleum, which is particularly dangerous when applied to so tender a plant as the Grape Vine. Cleaning of woodwork, &c., follows that of the Vines as a matter of course.

Vine Borders.—It always repays to remove a little of the surface material, substituting for it new soil and manure. Every gardener has his own special brand of Vine manure for applying just now, and in addition to that a layer of pure cow-manure, about 3 inches in thickness, laid all over the surface will be found of great value.

Young Vines.—Where additions are to be made to partly formed borders, these also may be effected now; but the very wide borders which were considered to be essential by a former generation are of no importance, and may, indeed, be less than beneficial in the end.

BRASSO-LÆLIO-CATTLEYA LADY MANNINGHAM BULLER.

Awarded First-Class Certificate and Lindley Medal.

The Kitchen Garden.

Brussels Sprouts.—The lower leaves have a tendency to turn yellow and fall off, and it will repay the labour to gather all these and at the same time pick off those on the plants. Sometimes I have had them lightly dug in between the rows and have thought that the plants have benefited by this freshening of the soil. One needs to look after the vegetable gatherer, who is usually inexperienced, to see that only the Sprouts that are at the right stage to pick are removed. By no means should the Cabbage-like terminal head be cut, otherwise the future crop is depreciated.

Endive.—Though hardy, it is best to have this vegetable in frames throughout the winter, whence a supply can be lifted every five days to be blanched in the Mushroom-house. The procedure is very simple. The plants having balls of soil attached are placed close together on a part of the floor and surrounded with a little soil, some water being poured, not over the plants, but near the soil-level just once.

Lettuce.—The sowing made some time ago in a box will have produced plants which are now ready to be transplanted, and happy is he who has a heated pit into which he can transfer them; not that heat is necessary, but in these circumstances there need never be a check from frost, and, unless a Lettuce grows unchecked, it is usually a poor thing indeed. The very old All the Year Round is a reliable variety for winter planting. One or two French varieties are considered superior, but in private gardens we have to be content with our own material, and for all purposes the above can be recommended as quite satisfactory.

Broccoli.—This important crop is a difficult one in the many gardens exposed to low temperatures, and no doubt the lifting of the plants and laying them heads northwards and at an acute angle is of value in heavy soils. In light soils a spade should be run down deeply between the rows. It is a pity that the improved type of Cauliflower-Broccoli is so much less hardy than the old kinds.

Seakale.—Note what was remarked in a previous calendar regarding having this early, and watch how the growth proceeds, putting another batch in before the previous one is far advanced. After this month the chief difficulties in successfully forcing Seakale will have greatly disappeared.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Tomatoes.—Plants in fruit and those prepared for this purpose during the summer, growing outside in pots or boxes, are fruiting heavily, and should be supplied with weak liquid manure at alternate waterings or be given a sprinkling of Clay's Fertilizer twice weekly. A night temperature of 55° should be maintained. The plants should not be denuded of their leaves, remembering that these plants, which are expected to give fruits until March, require their leaves to aid the swelling of the fruits. Do not overcrowd the plants, then there will be no necessity to cut off so many leaves to give light to the ripening fruits. As the fruits colour, cut them early to relieve the strain on the plant. The fruits will ripen in a warm, dry room quite as well as on the plants.

Seakale.—Remove the decaying leaves from the plants intended for forcing, to enable them to ripen their crowns quicker, before placing them in heat, which should be done at intervals of a fortnight to maintain a regular supply.

Rhubarb.—Take up roots for forcing in boxes or beds of soil under the greenhouse stage, if no better site is available, keeping the light from the roots when growth commences.

Asparagus.—For forcing on a mild hotbed in frames or on a bed of soil in the Cucumber-house, the roots from a partly worn out bed will give a fair supply of "grass" at Christmas and be very acceptable.

Endive.—Where the plants are being blanched in darkened frames, they must be well protected from frost, but be given air during the daytime to prevent the leaves damping. Spare plants can be put out on the border in the Peach or orchard house, where space is available, giving the roots a good soaking of water and tying the leaves over the centre to blanch the hearts for immediate use.

Examine all Roots, such as Beet, Turnips and Carrots, that are stored in sand, in case any may be diseased. These, if left, will contaminate the others.

Mint.—Where an early supply of Green Mint is required, place roots in shallow boxes of sandy soil in a moderately warm greenhouse.

Plants Under Glass.

Chrysanthemums.—As the plants go out of flower, cut them down to within a few inches of the soil to induce them to throw up suckers where no growth is forming. Where the cuttings are 3 inches long, take off the strongest, cut below a joint, remove the lower pair of leaves, and insert the cuttings singly in sandy soil in small pots, standing the pots on a bed of coal ashes in a hand-light in a cool house. Here they will make roots in about three weeks.

Carnations require careful watering, especially at this season, when we have so little sun to dry the atmosphere. Careless watering may easily bring about an attack of rust.

Fruit Under Glass.

Muscat Grapes that have been grown without fire-heat are much more susceptible to damp than others, as the skin of the berries is softer. As a preventive of decay in the berries and to aid in the maturing of the wood for next season's crop, the hot-water pipes should be warmed night and day to dissipate condensed moisture and maintain a buoyant atmosphere.

Strawberries in Pots.—The plants for late forcing should be plunged in a bed of coal ashes in a cold frame, where they will be safe from frost and will not require much water at the roots.

Peaches and Nectarines.—Complete without delay the planting of all trees under glass, giving sufficient water to keep the roots moist and to prevent the buds dropping. Prune all trees, early or late, deferring the tying of the shoots until a more convenient time.

The Hardy Fruit Garden.

Planting.—No time should be lost in completing the planting of Apple, Pear and Plum trees. One of the greatest mistakes is in planting the trees too deep. When the roots are so far away from the surface they lose the influence of sun and are liable to make gross, immature shoots. I do not agree with mulching the surface with heavy manure, as the soil is kept too cold. It is much better to have a warmer rooting medium for the trees by the presence of sunshine, whenever that is available.

Cordon Apples and Pears are now being planted in considerable numbers in various gardens. This method gives an opportunity of testing many varieties, as the trees can be grown 15 inches apart at the back of a vegetable border in the kitchen garden or alongside a path, where they take up but little space.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

Trial of Spring-sown Beet and Potatoes at Wisley, 1917

THE following awards have been made to Beet by the Council of the Royal Horticultural Society after trial at Wisley:

FIRST-CLASS CERTIFICATE.

Green Top, Sutton's Strain, sent by Messrs. Sutton.

AWARDS OF MERIT.

Brydon's Exhibition, sent by Messrs. Barr; Cheltenham Green Top, sent by Robert Sydenham, Limited; Dewar's Northumberland Red, considered identical with Covent Garden Compact Top, sent by Messrs. Barr and Nutting; Sutton's Perfection, sent, raised and introduced by Messrs. Sutton; and Nutting's Selected Red, sent by Messrs. Nutting.

The following awards were given to Potatoes resistant to wart disease, grown at Wisley to compare cropping and cooking qualities. The names in parentheses following the name of the variety are of those who presented the seed or from whom it was purchased. The seed was in each case grown in Scotland or Ireland.

SUTTON'S GREEN-TOP BEET (FIRST-CLASS CERTIFICATE).

AWARDS OF MERIT.

Golden Wonder (Dobbie, Sutton); Great Scot (Dobbie, Sutton, Veitch), which the committee considered to be identical with Sir Douglas Haig (Sands) and Southampton Wonder (Toogood); King Albert (Sands); King George (Sutton); and Langworthy (Dobbie, Sutton), which the committee considered to be identical with What's Wanted (Sutton).

Tomato Kondine Red

MOST market growers are already familiar with the wonderful cropping qualities of Tomato Kondine Red, which certainly is one of the very finest varieties, if not absolutely the finest, for all-round results yet sent out by the famous Tuckswood raiser; and a few months ago there appeared in THE GARDEN an illustration of a group of several varieties as grown in the open air in these gardens. In this group Kondine Red figured very conspicuously, several plants that year giving us fine, extra heavy bunches, some of which weighed from 4lb. to 5lb. This year, notwithstanding the lack of sunshine throughout August, the crop taken from plants in the open air surpassed that of any previous year; but the surprise of the season has been a self-sown plant of this, which early in July we found growing among the Potatoes. This plant, although only supported by a stout stake and attention paid to the removal of all superfluous growth, neither clear water nor liquid manure being supplied, set three good trusses of fruit, the first of these being ripe before the end of September, many others following early in October. Surely no greater testimony than this need be given as to the suitability of the variety for outdoor growing or cultivation by those having a small unheated greenhouse. In addition to its heavy cropping qualities, this variety has size, form and colour to recommend it; while the sturdy nature of the plant makes it one of the very best varieties for growing in the ordinary lean-to or low span-roofed house usually finding favour with small growers.

F. R. C.

JERUSALEM ARTICHOKES

IT is whispered that a lady, writing to her husband near Gaza, hoped he would "soon be able to send some Artichokes, which would be *so* nice from Jerusalem" (!), which reminds me that Mrs. Earle's "Pot-pourri from a Surrey Garden" has a reference to Palestine soup. I wonder how the Italian "Girasole" can have become "Jerusalem," and whether there is not another explanation of the word's origin. I wonder it is not more generally grown, too. From some very ordinary seed we have dug 5lb. 14oz. to a root, and few averaged less than 4lb. The secret seems to have lain in widely planting new seed in sandy soil, for, beyond hoeing to keep down weeds and conserve moisture, nothing else was done. As a matter of fact, the plants were grown mainly as a wind screen on the north and east sides of an open allotment; and a profitable shelter they proved. The tubers came up in a solid mass. Though a youngster at the time, I remember my grandfather—a great garden lover—describing the flavour of boiled Artichokes as smoked Potatoes; and certainly many have little liking for them. *Chacun a son goût.* Cut into slices and fried to a golden brown in dripping or fat, the transformation is complete. The very look of chipped Artichokes should bring the hermit headlong from his cell to "Tempt the dying anchorite to eat."

West Bridgford. RONALD C. S. ROSS.

Pea Clibran's Masterpiece

EARLY last June I forwarded for the Editor's opinion a shelled sample of Pea Masterpiece, one of the latest introductions from the well-known Altrincham firm. The Peas were from seed sown in the open garden during the latter half of February, and grown without any further protection than that afforded by a few Hazel sticks to keep the haulm from coming into contact with the soil. Previous to this year I had not given the variety a trial, but I was so struck by the remarkable size of the Peas and the length of the pods that quite a long row was allowed to ripen seed. By the first week in July many of the pods were sufficiently ripe to allow the seed to be sown. This was done at once, six seeds in an ordinary 3-inch pot, the pots being kept in a cold frame until the plants were about 3 inches

high, by which time the pots were well filled with roots and the plants just ready for a shift. A portion of well-dug and fairly heavily manured ground was found for the plants, short sticks being supplied as soon as planting was finished. Plenty of water was given as required, and manure water after the first flowers opened towards the end of August. By the end of the month the row was a mass of flowers and pods, good pickings being taken from the middle till the end of September. The Peas I am now forwarding were gathered from the row on October 17, at which date many more remained to be gathered, and not a trace of mildew was to be seen. Certainly, when deciding upon the name of Masterpiece the introducers were well aware of its wonderful qualities. Its height is about 1½ feet. F. R. CASTLE.

SWEET CORN

CORN is the usual American name for what we call Indian Corn or Maize. It is only of late that we English have recognised the merits of the garden kinds of Sweet Corn—a too long neglect of a good thing. It is such a capital autumn vegetable that those to whom it is once known will not be content to be without it, and table kinds are now appearing in the catalogues of our best seedsmen. A trial during the past summer with some of the finest kinds from the United States has been most encouraging. The Corn was in four kinds, viz., Golden Bantam, an early kind, sown on May 10; Howling Mob—what an unkind name for something sweet and tender and entirely amiable and desirable!—a white-grained Corn of excellent quality, sown May 10; Golden Evergreen and Thorburn Nordheim, both sown a week later. They are sown straight into the open ground, 1½ inches deep and 1 foot apart; when 2 inches high a little soil is drawn up on each side. They rejoice in an open, sunny place, and must not be dried up. They are ready to eat when the grains are fully formed but are still milky. With a little practice one learns to feel when the cob is fit to gather—it feels full and solid under its casing of many coverings. It is boiled in water or milk, and the proper way to eat it is to rub it over with a little butter, pepper and salt, and to gnaw it off the cob. G. J.

Clubbing in Brassicas

WITH regard to keeping in check club-root or gout of Brassicas, I am of the opinion that it is not safe to rely on one specific to prevent an attack of the disease. I do not think a method can be quite safe that is supposed to render each single plant safe from being attacked, as the dressing, whatever it may be, may have some flaw in it, either due to its application or some condition of the soil or weather. It seems far better to try to bring about soil conditions and conditions of the plant itself which do not encourage or assist the life of the Plasmodiophora.

The methods I practise, and which I would recommend to others to make all conditions as near as possible militate against the disease, may be summarised thus:

Thorough drainage.

Deep working of the soil to make it more open and sweet.

The use of quicklime (*a*) to destroy the disease, (*b*) to render the soil non-acid (acid soil encourages the disease).

Taking care that the stable manure used does not contain any residue of the Brassica family, either in excreta or as vegetable waste.

Never use acid manures, neither superphosphate nor sulphate of ammonia, nor special mixed manures.

Use basic slag annually; this is non-acid and promotes the growth of healthy roots.

Grow your own plants raised on club-free soil that has been well limed and with basic slag sown with the seed in the drills. Infection may occur in the seedling stage.

Sow basic slag with Turnip and Radish seeds.

Keep land free from weeds.

Dig up (not pull up) all infected plants as soon as noticed; remove soil and all, to be burnt.

Remove and burn all cut stumps as soon as heads are cut.

Avoid earthing up plants, if possible.

By a careful plan of cropping arrange a long rotation, especially with Cauliflower and Broccoli.

The above precautions are not difficult, as they are only methods of good cultivation, and as the disease is one living in the soil they are necessary to bring about proper soil conditions. A campaign against club-root must be fought upon these lines, as the disease differs very widely from late blight Potato disease, where spraying may prevent infection by the leaves of the plant. A. D. T.

WITH reference to the articles on "Clubbing in Brassicas" in recent issues of THE GARDEN, we draw the attention of readers to the following paragraph by Professor M. C. Potter, Sc.D., of the Armstrong College, Newcastle-upon-Tyne, in a paper in the Journal of the Royal Horticultural Society, Vol. XLII.:

"The chemical effects of lime upon the soil have received great attention, but its action in neutralising soil acidity is not sufficiently recognised. In the case of Plasmodiophora this is a most important factor. Since the middle of last century it has been noted that 'finger-and-toe' is practically absent from calcareous soils, and that dressings with lime tend to check this disease. Also it has been noted that manures which tend to increase the acidity of the soil favour its development. This problem has received solution by the work of G. Potts, carried out in the Botanical Laboratories at Newcastle and at Halle (Salle), by which it was demonstrated that alkalinity of the soil, from any cause, secured the immunity of the host from attack by the parasite. His experiments also showed that the soil calcium has not necessarily any relation to the disease. I have shown that below a depth of 4 inches to 5 inches the spores of Plasmodiophora are killed, or are at least inoperative. Hence a sufficient dressing of lime should be given to render the soil alkaline to this depth. The acidity of the soil varies from field to field, and also is not constant throughout the year. It is thus impossible to predict how much lime should be applied in any given case, and field experiments following up Potts' work, to test the power of lime to neutralise the acid in the soil, are much needed as a means of saving our cruciferous crops from this most destructive parasite. How far soil acidity or alkalinity are factors in other plant diseases is another of the points awaiting elucidation."

From this it would seem that Dr. Potts has shown how clubbing may be kept in check, and has indicated the line of attack.

The War Office notifies that from now onward all papers posted to any neutral European country will be stopped, except those sent by publishers and newsagents who have obtained special permission from the War Office. Such permission has been granted to THE GARDEN, *and subscribers who send to friends in Denmark, Holland, Norway, Sweden, Switzerland, Spain, Portugal, Greece, and Roumania should order copies to be despatched by the Publisher from* 20, *Tavistock Street, Covent Garden, W.C.2.*

Southern Federation of Allotment Holders

ORGANISATION in the allotments movement of the Southern Federation is proceeding briskly. The Provisional Council of the Federation, whose offices are at 8, Buckingham Street, Strand, have set vigorously to work to tackle the numerous problems which confront the movement. The most important work of the moment is that of the organising of the various districts, and for this several voluntary organisers have come forward. Meetings are being held in different centres; these are being largely attended, and the heartiness of the proceedings reflects the enthusiasm of the people for food plot cultivation and their determination that this necessary national service shall be continued.

In a leaflet which the Federation has just issued, the objects defined are generally: The securing of legislative or administrative action to obtain more land for allotments in order to satisfy applicants at present unprovided with plots; to encourage a large increase in the number of applications, and to permit of an increase in the size of existing allotments for those who have the necessary skill and leisure to cultivate them. The most important demand of the moment is that of increased security of tenure. Claims are also made for extension of the powers under the Cultivation of Lands Order, 1917, and the provision in all town-planning schemes of permanent allotments and, where necessary, travelling facilities where the allotments provided are at a distance.

A Trading Committee has been established for the co-operative purchase of seeds for plot-holders, and this work is being carried on actively. A few days before the Seed Potato Order was notified, the committee made a strong protest to the Board of Agriculture against the delay on the part of the Government in fixing the price of seed Potatoes, and have taken action on matters of security of tenure, illegal charges, &c.

As a result of a meeting at Birmingham under the auspices of the National Union of Allotment Holders, the geographical areas of each federation have been defined, and it has been decided that the affiliation fee of one penny per member per annum should for the present be adhered to. In the Southern area a campaign will be undertaken for the formation of district federations. Altogether, the future before the movement seems bright indeed. It has gathered round it an active body of workers who are prepared to do their utmost to secure effect to the Prime Minister's declaration that "every foot of land in the country is necessary for food production."

THE NATIONAL UNION OF ALLOTMENT HOLDERS

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I beg to enclose you a copy of a resolution which my executive desire passed by public meetings of all allotment societies throughout the United Kingdom by December 10.

D. CHATER,
Organising Secretary for London and the Southern Counties.

8, *Buckingham Street, London, W.C.2.*

"That this meeting urges upon the President of the Board of Agriculture and the Director-General of the Food Production Department the strong necessity of at once extending the tenancy of allotments held under the Cultivation of Lands

Orders to such time as the said land shall be required either for immediate building or other urgent public purposes, and to take such steps as are necessary to provide that where tenants have to be dispossessed of their allotments from such causes, other suitable ground shall be made available for their use.

"Further, that it is desirable that such legislation be at once introduced and passed as shall make it possible for allotments of a permanent character to be secured by all who are prepared to cultivate them.

"In view of the prospect of a continued shortage and high prices of foodstuffs both during and after the war, and in order to relieve to some extent the economic pressure caused by the effects of the war, which will press with special severity upon the working and middle classes, it is urged that these representations should receive prompt recognition."

ANSWERS TO CORRESPONDENTS

KITCHEN GARDEN.

ARTICHOKES (*J. H. B.-M.*).—Our correspondent says his trouble is not how to grow them, but how to get rid of them. The best way of ridding soil of self-planted Artichokes is to trench the same 3 feet deep and pick out every tuber that can be found, however small it may be. There may be a few left over even then; if so, they will appear above ground in spring, and should be pulled up. A less laborious way would be to fork up the plants, roots and all, at the time they appear above ground, and so destroy them, and continue to do so until the last is dug up.

FRUIT GARDEN.

BIG-BUD IN BLACK CURRANT (*D. M. F.*).—The big-bud of the Black Currant is full of little live mites, which are most difficult to get rid of. The only time it is possible to do so is when the mites migrate from bush to bush from the end of April to the end of June. Spray the trees at that time, at intervals of a fortnight, with Quassia and soft soap and you will stand a good chance of killing a large number of them, but not of eradicating them altogether, as we fear this is scarcely possible. Bushes infested go on bearing very well for many years, and therefore, if we were you, we would not scrap them. If you did this and planted more, you have no guarantee that you would not be in the same predicament again soon.

FLOWER GARDEN.

NOVEMBER FLOWERS.—I send for your inspection flowers grown against the house in a cottager's garden in this village. It is considered rare that one would find them at this time of year, and especially after the sharp frost we have had here.—CHARLES W. PAXTON, *Cowlinge, Suffolk*. [The flowers are those of Tropæolum majus in many forms. They must have been growing in a very sheltered position to have escaped the frost.—ED.]

ZAUSCHNERIA AND HYBRID TEA ROSES (*R. U.*).—The non-flowering of the Zauschneria is most probably due to too much root room, the precursor of rampant growth at the expense of flowers; to loose as opposed to *very* firm soil, or to lack of sun, or all combined. The plant has generally flowered sparsely this year owing to the wet and the absence of much sun. Try a rather poor soil freely mingled with old mortar rubble, making it very firm about the roots. In old brick walls 10 feet above ground, with its roots under the coping, where little moisture can reach them, the plant is often prodigal of flowering, while refusing to do so in the garden soil below. In such case the moral and object-lesson are obvious. Native of a hotter, far sunnier clime than our own, we have to cater for the needs of such things on special lines in order to induce them to play their part. If you have no wall, try a nearly vertical rock crevice where little soil obtains, replanting for preference in March or early April. Prune the growths of the Hybrid Tea Roses to good plump eyes within 6 inches or 8 inches of the soil early in April next.

MISCELLANEOUS.

NAME OF PLANT.—*G. F. J.*—Berberis vulgaris (Barberry).

NAMES OF FRUIT.—*A. McD.*—Pears: Large Pitmaston Duchess. The russet brown fruit is Durondeau. — *W. G. B.*—New Bess Pool.——*W. A. K., Beds.*—1, Unrecognised; 2, Yorkshire Greening; 3, St. Germain; 4, Seaton House.——*H. S.*—Dutch Mignonne.——*N. J. O.*—1, Bietigheimer; 2, Hormead Pearmain.——*E. K.*—Gravenstein.——*W. J. L.*—1, Lane's Prince Albert; 2, Tower of Glamis; 3, Fearn's Pippin; 4, Adam's Pearmain; 5, Wellington. Pears: 1, Gansel's Bergamotte; 2, Maréchal de la Cour; 3, Catillac ——*K. F., Sussex.*—1, Bess Pool; 2, Yorkshire Beauty; 3, Golden Noble; 4, Beauty of Hants; 5, Keilleston Pippin; 6, Hambledon deux Ans; 7, Claygate Pearmain; 8, Old Nonpareil; 9, Nelson's Codlin; 10, Baronne d' Mello.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

If quite a small gathering of plants and flowers characterised the fortnightly meeting on November 20, it was not lacking in variety or interest. Orchids, for example, were particularly well shown, and one entirely unique novelty—that from Messrs. Armstrong and Brown—was an eye-opener to all lovers of the race. Apart from this, a table of winter-flowering Begonias merited high praise, the more so seeing it came from a private garden in these troublous times. Chrysanthemums, too, added their quota of beauty, not a few being of the decorative type, which appeals to all. Of hardy plants, the finest was the pure white giant form of the Christmas Rose (Helleborus niger altifolius) from Horsham, which is referred to elsewhere. No fruits or vegetables were shown.

CHRYSANTHEMUMS.

The stand of these from Messrs. W. Wells, Limited, Merstham, was a great attraction, albeit only three varieties were staged. These were, however, generously displayed and showed their full worth. Undoubtedly the most popular of the three was Lady Stanley, a decorative sort of a high order of merit and rich rose pink colour. Under artificial light it is charming. Bronze Beauty and Mary Morris are semi-double sorts and of deep bronze colour, the last named having the longer florets and very free. Both are highly ornamental.

Mr. Charles Page, gardener to J. B. Fortescue, Esq., Maidenhead, showed William Rigby (golden), Mrs. Gilbert Drabble (white) and Mrs. R. C. Pulling (golden), all big exhibition sorts.

Mr. G. G. Whitelegg, Chislehurst, staged a group of a very attractive red seedling, obviously a great bloomer.

A group of King of the Plumes, rich golden yellow, was contributed by Messrs. Felton and Sons, Hanover Square, W. It is a capital variety for decoration.

GREENHOUSE PLANTS.

The most notable exhibit here was the table of winter-flowering Begonias from the Misses Tanner and Tate, Bushey Heath, Herts (gardener, Mr. T. W. Birkenshaw). The central grouping of Emily Clibran, a lovely double salmon, was admired by all, and rarely has it been better shown. Next to it in importance was the yellow and buff Mrs. H. Barton, an exceptional colour in these flowers. Optima (pale orange), Success and Winter Cheer (red shades) and Clibran's Pink were others of note. Silver Flora medal.

Of more than ordinary import, too, was the hybrid Eureka race of Primula obconica sent by Adeline Duchess of Bedford, Rickmansworth (gardener, Mr. J. Dickson). These are stated to be crosses between P. sinensis and P. obconica. Much the greater leaning, however, is to the last-named species. This notwithstanding, the strain is not only diversified, but of a high order of merit.

CARNATIONS.

The Misses Price and Fyfe, Horsted Keynes, Sussex, had an excellent lot of these flowers, all of their own raising. Grizel (purplish crimson), Malcolm (very fine scarlet) Kenneth (a modified Bishton Wonder) and Maisie (deep pink) were some that appealed strongly. Silver Banksian medal.

In a group from Messrs. Stuart Low and Co., Bush Hill Park, Red Ensign and Brilliant stood out among those of scarlet colour, Eileen being the most pleasing salmon-coloured sort. British Triumph (crimson) and Pink Sensation were good.

In Messrs. Allwood's group the most telling sort was the yellow-ground fancy Miriam Wilson. The variety is large and well marked with scarlet. Salmon Enchantress was of exceptional colour.

NERINES.

The largest collection of these came from Mr. G. Reuthe, Keston, the group constituting a brilliant mass of colour on a dull November day. Flora (cerise), Amorell (a lovely salmon), Carmen (salmon, lined scarlet), Walter Reuthe (rich crimson scarlet), Mrs. Charles Waters (rose with white base), gracilis (deep cerise, scarlet midrib) and Annie (softest salmon) were among the best. Pudica, corusca and flexuosa alba were also on view.

Mr. Herbert Chapman, Rye, showed Nerine J. T. Bennett-Poë, of rose cerise shade, clouded with magenta; and Gaby Deslys, cerise scarlet, shaded with a purplish tint. Both are good and distinct.

ORCHIDS.

For a brilliant lot of these flowers Messrs. Armstrong and Brown, Tunbridge Wells, received a silver Flora medal in addition to the special awards noted elsewhere. (See "New and Rare Plants.") Most notable were Cattleya Ajax (pale pink with crimson purple lip), C. Venus (whose golden-coloured petals are shaded with bronze), C. Saturn alba (very pure) and C. Maggie Raphael alba, whose lip is rich red.

Messrs. J. and A. McBean, Cooksbridge, showed the dark-coloured Odontoglossum Lambeauianum, Cattleya Bellona and Sophro-Cattleya Pearl.

In an effective grouping from Messrs. Charlesworth and Co., Hayward's Heath, for which a silver Flora medal was awarded, the outstanding feature was the brilliant array of Epidendrum vitellinum majus, and these, freely interspersed with the pure white arching racemes of Odontoglossum armainvillierensis Xanthotes, O. eximeum and O. amabilis, constituted a considerable attraction.

Mr. James Whitton, J.P.—We are glad to learn that Mr. James Whitton, V.M.H., Superintendent of Glasgow Parks, has been included among the new Justices of the Peace who have been appointed for the City of Glasgow. Mr. Whitton's abilities well qualify him for the honour bestowed upon him, and his many friends will be pleased to hear of his appointment.

Gardens too Large for Tenants.—Urging that partially cultivated gardens are prejudicial to the success of the garden city movement, the Letchworth Gardening Club report that the wasted and unsightly gardens there proves that the plots on the average are too large for the tenants, which shows the need for cottages being built closer together or the garden plots being merged into public spaces.

Gardeners' Benefit Society.—It has come to the notice of the committee of the United Horticultural Benefit and Provident Society that some members of the society have been under the impression that they were not entitled to benefits while they were serving with the Forces, although they had kept their contributions paid. Up to the present time the sum of £162 4s. 8d. has been paid in sick pay to members who have been wounded and sick, and the committee would feel indebted to any gardener who would inform them of any member who is either sick or wounded that the case may be investigated for the member to receive the benefit he is entitled to.

OBITUARY

LIEUTENANT W. V. R. SUTTON.

LIEUTENANT WILLIAM V. R. SUTTON, aged twenty, fourth son of Mr. Leonard Sutton of Hillside, Reading, was killed in action on November 13 in Palestine. He was educated at St. Andrews, Southborough, and Repton. On leaving school at the age of seventeen he went to Canada to join his uncle, who was farming in Saskatchewan. He joined his regiment in Egypt in October, 1916, and was promoted lieutenant last month. Mr. Sutton has three other sons still serving. His second son, Lieutenant E. G. Sutton, M.C. (Royal Sussex Regiment), was killed in action in France in April, 1916. The deepest sympathy is felt with Mr. Leonard Sutton in his heavy loss.

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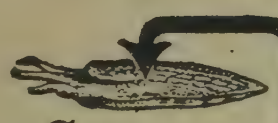
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For the Poultry-Keeper

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ROOTS, particularly swedes, mangels and turnips, should take their place in the menu of the layers during the winter months. A few notes thereon will not, therefore, be out of place.

Swedes and Mangels.—Swedes should now play their part in the soft food. It is customary to store these roots in beds for use from November onwards, and mangels follow them for use after Christmas. Mangels do not stand the frost like swedes or turnips, and early storing is therefore necessary. For the same reason more of the leaves should be left on when they are buried than with other roots. They should not be removed from the earthen beds till they are ripe, as the feeding of unripe roots results in bowel troubles. Many poultry-keepers on this score do not feed mangels till February, when the supply of swedes runs out. The Golden Tankard and Long Red have, it is claimed, a higher feeding value than the Yellow Globe—a point to be remembered. The feeding ratio of swedes reads: *Leaves*, 1 to 3; *bulbs*, 1 to 5½. And of mangels: *Leaves*, 1 to 2¾; *roots*, 1 to 8½.

Use Turnips Carefully.—Turnips represent quite a useful root for the winter, but they must not be fed too generously. The albuminoid ratio is: *Leaves*, 1 to 1½; and *bulbs*, 1 of albumen to 5 of carbohydrates. It is difficult to understand what exactly there is in the turnip to upset the fowls, but the fact remains that if this root is fed too liberally to either chicks or adults, harmful results will follow. Hence my note of warning. As I write I have before me a letter from Mrs. W. Owen of Caversham (no relation) wherein she mentions an incident connected with the feeding of turnips. Here is the extract:

> "At about a year old I limited them a little, as I saw a few soft-shelled eggs and thought they might be too fat. I found, however, that raw turnip caused the soft shells. One of the birds was very upset by the turnips, and laid small eggs without yolks until I found out the cause and stopped the raw turnip."

In addition to soft-shelled eggs there is a tendency to diarrhœa where turnips are given in excess. Swedes can be distinguished from turnips by their bluish-tinged leaves, which spring from a kind of neck at the crown, a characteristic not found in the turnip.

How to Give Roots.—The roots can be fed to the fowls either cooked or raw. In the former case they should be mashed when thoroughly boiled and be added to the soft food. They can in their raw state be given to the birds in several ways. Quite a good plan is to cut the root in half and drive a large nail through each part into a solid piece of wood beneath. This plan enables the fowls to pick out the centres cleanly, leaving just the outer shells. To save time and labour several long nails can be driven into a heavy piece of wood and the contrivance left always handy, although when not in use it can be hung up to the side of the house. With such a device in use, all the poultry-keeper has to do is to push "home" half a root on each nail. If the roots are finely minced or cut up, they can be fed raw in ordinary troughs or be added to the soft food prior to the latter being scalded and dried off.

The Hardy Ancona.—Mrs. Shortt of Southwick Rectory, Sunderland, sends me a pretty sketch of one of her breeding pens of Anconas. It is rendered the more interesting because my correspondent tells me that she has been constantly in exhibitions with miniatures and interiors, and does a good deal of figure work. Mrs. Shortt is full of praise for the Ancona, which breed she specialises in, finding it active, pretty and hardy, and a splendid layer. Each lot of birds has a roost and attached scratching shed, and the "combination" structure may be seen in the illustration. To protect the birds owing to an otherwise bleak and exposed site, the background is made up of bushes, although, in referring to the original, my correspondent jocularly adds, "*not* a shell exploding."

CORNER VIEW OF BREEDING PEN.

A sketch by Mrs. Shortt, Southwick Rectory, Sunderland, of one of her breeding pens of Anconas. (*See text.*)

For Intensive Purposes.—Picture a Leghorn with mottled black and white plumage—each feather tipped with the white—and you have the Ancona. In fact, I have often heard them referred to as Mottled Leghorns. The hens are non-sitters and layers of good-sized white-shelled eggs, and the breed is deserving of more popularity. The Ancona is a busybody—a good forager and scratcher—which qualifications fit it for free range. It is such merits, however, that have kept many non-sitting breeds out of the limelight, people still clinging to the old-time idea that the light, active varieties are not suited to confinement. The little Leghorn has proved this to be but a fallacy. The Ancona, if properly handled, will do well in intensive structures and in even backyard runs. True, it is *shy*, but here again management during the growing stages from shell to maturity has an important say in the matter.

Increased Poultry Supplies.—A reader of my notes has sent me an interesting cutting from an American poultry journal. Across it was blue pencilled, "What is our Board of Agriculture doing?" The cutting deals with an autographed letter sent by Mr. Herbert C. Hoover, the United States Food Administrator, to the American Poultry Association and producers of poultry and eggs in the United States of America. The letter runs:

> "'We are short of red meat. Our soldiers and our Allies require more than ever before. We are advocating in every household, every hotel and restaurant in this country the substitution of poultry for red meat. Increased production of poultry can be effected much faster than beef, pork and mutton. While we want to increase in all the latter, we must have a quick response in poultry and poultry products.
>
> "There is a great waste of poultry feeds from every household and every farm. It requires little labour. Cannot the poultry raisers of the country help us by providing the increased supply we need?—HERBERT HOOVER."

Chickens *versus* Bullocks.—As regards my correspondent's query, I presume he wishes me to answer it. My views on the matter have already appeared in THE GARDEN, and I admit right away that I cannot understand why the powers that be have *never* shown any sympathy to the British hen. It is absolutely wrong to buy eggs, as we are now doing, from abroad, necessitating tonnage to bring them here—ships that might be bringing poultry feeding grain, since they can evidently be spared. The eggs for the most part are condemned as "rotten" when they do get here. And both poultry and eggs are being bought extensively abroad to be shipped here. Germany realised the value of its poultry stocks directly war broke out. Officials fostered the idea so well that they erected poultry houses and supplied the necessary fowls *free* for any person who desired the same. The outlay had to be refunded on the instalment system. America has followed. Three dozen table chickens produce as much flesh in a week as one bullock. Is it not possible, therefore, to convert the majority of poultry-producers into farmers?

Looking Ahead.—In pre-war days we spent well over £10,000,000 per annum on imported eggs and table poultry, Russia alone in 1913 sending us 1,374,393,240 eggs. So *patriotically* has poultry been taken up that if the war closed to-morrow we could be self-supporting by way of "home" poultry produce. Would it not be deemed feasible for the Board to realise what this means? In a nutshell, it means that we poultry producers could every year after the close of hostilities save over £10,000,000 to the nation. The Board might do well to collect waste from households, hotels and restaurants for the purpose of feeding poultry and pigs.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C. 2.

present price of Eggs makes
production a profitable matter
poultry keepers whose fowls are
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any letters are received daily
satisfied users in all parts of
country, and the following are a
of those recently to hand:

Edward Street, Old Hare-Law, Annfield Plain, Co. Durham,
14th November, 1917.
send 2 cwts. No. 1 Ideal Meal, and send at once, as I do not
be without. **Ny hens are still laying really well on**
od.—W. THOMPSON.

The Gardens, Umberslade, Hockley Heath, 9th Nov., 1917.
u please send me 1 cwt. of your No. 2 Ideal Meal? I am very
with it, and although it is only a short time since I commenced
my fowls have improved wonderfully, and I shall continue to
d recommend it wherever possible.—H. S. FOSTER.

48, Birch Lane, Manchester, Nov. 10th, 1917.
deal Meal is very satisfactory, as I have now been using it about
ks, and get on an average 22 eggs per week from five fowls,
consider good for this time of year.—LEONARD S. COOPER.

35, Princes Road, Altrincham, 13th November, 1917.
send 1 cwt. of your Complete Ideal Meal. I had ¼ cwt.
s suited my fowls, for they look brighter than they have done
g time—W. PILLING.

Mevagissy, Cornwall, 13th November, 1917.
uld be glad if you would forward 2 cwts. of your Complete
eal. **It is because I have had experience of your**
nd am so satisfied with it that I come for more. I am
an satisfied with the special White Orpington chickens pur-
rom you and should be glad to know what chickens you will
the coming season.—E. MARTIN.

The Hollies, Rowton, Nr. Chester, 14th November, 1917.
of Meal reached me only on Saturday last, and as it takes
ne to get through I should like another cwt. of the Complete
eal at once, cheque enclosed. I noticed a complete drop in the
of eggs produced during the period I had to go without your
ing to delay on rail.—F. S. GILLING.

osemary Hill Road, Streetly, Sutton Coldfield, 13th Nov., 1917.
forward another cwt. of your Complete Ideal Meal. **My**
are doing well on this food and have gone through
oult splendidly.—A. W. YARDLEY.

135, Park Road, Ilkeston, 14th November, 1917.
ith find cheque for another cwt. of your Complete Ideal Meal.
a splendid food, and I would not like to be without
get such good results from it.—W. TURTON.

ers should be carefully sent to their **Only Address:—**

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Our Mixtures are guaranteed free from Shell and Grit.

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Notice is hereby Given that an ELECTION of CANDIDATES to receive the benefits of this Fund will take place at SIMPSON'S, 100, STRAND, London, W.C., on FRIDAY, February 8th, 1918. Nomination forms, to be obtained from the Secretary, must be returned to him not later than December 18th next, on which date the lists will be closed.

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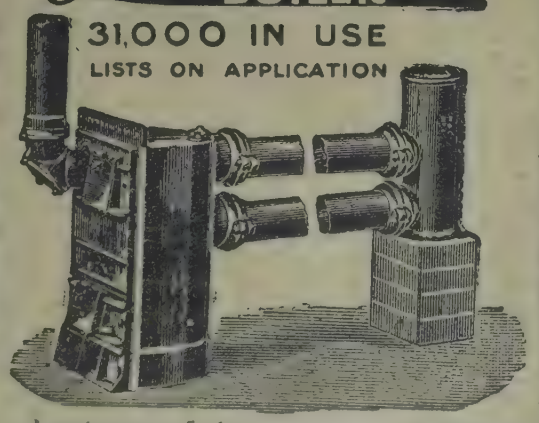

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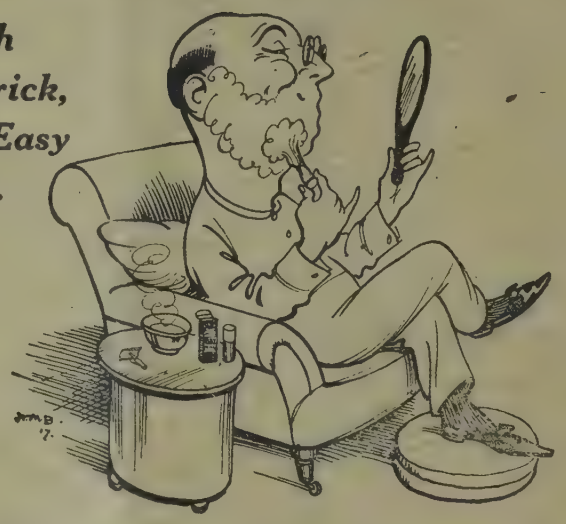

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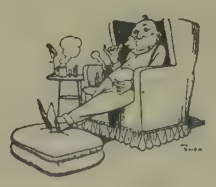

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A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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THE GARDEN.

No. 2403.—Vol. LXXXI.] [December 8, 1917.

NOTES OF THE WEEK

COLONEL H. E. RAWSON, a member of the scientific committee of the Royal Horticultural Society, delivered a lecture before the Royal Colonial Institute at the Royal Society's Lecture Theatre, Burlington House, on "The Sun as Empire Builder." Colonel Rawson has done much work regarding the action of light on plant growth, and he stated that the Monterey Pine, which is of unsatisfactory growth in California, succeeds and is a very valuable timber tree in New Zealand. The conditions of light and environment were responsible for this variation, and it had led him to experiment in his own garden. The results of these experiments were illustrated by a unique series of lantern slides. Thus in the Nasturtium the colour and formation of the flower had been changed and the simple leaves had become divided into lobes (as many as five) when the plants were grown and the incidence of light had been controlled. Several of these variations had become fixed and came true from seeds. The production of fruit in Tomatoes had also been increased, and it was stated that by attention to sunlight our fruit supply would be greatly augmented. With regard to colour, the law seemed to hold that the low sun of early morning fostered yellow; midday sunlight produced violet, blues, or purple; while the middle light produced violet, blue, and red. An interesting point brought out by the lecturer was that Roses and crops need not suffer from certain diseases and pests if grown under the influence of rays that would keep them healthy. For instance, plants attacked by black aphides had been cured of the pest by means of selective screening. Experiments, from which there was great hope, had been made with a view to showing that certain human diseases supposed to correspond with those of plants might be cured in the same way. The mystery as to the cause of variation in plants was cleared away by these proofs of the influences of light.

Union for Scottish Allotment Holders.—A movement is on foot for the formation of a Scottish National Union of Allotment Holders, and a conference on the subject is to be held in Dowell's Rooms, Edinburgh, on December 15, when it is expected the union will be successfully launched. The address of the interim secretary is 1, Rutland Square, Edinburgh. It has been calculated that there are over 30,000 allotment holders in Scotland, of whom over 5,000 are in Glasgow and upwards of 3,000 in Edinburgh, so that there is a good field for the operations of a body such as is proposed.

Forcing Chicory.—Chicory is quite a valuable winter and spring esculent. It is often stewed and served with melted butter, but more often—especially in these times—is eaten in the same manner as Celery, with cheese. It also makes a good and wholesome salad. The salading is obtained by carefully lifting the roots from the ground with a fork, and setting or packing them closely with fine soil or leaf-mould in boxes. The boxes must then be stored in a cellar or some other place in absolute darkness, with the temperature above freezing point. Cutting should commence from three to five weeks hence. Watering should not be necessary for a month, or until the plants begin to show signs of flagging. The boxes will need to be deep; or, if a trough is made in the cellar, instead of using boxes, the boards should be very wide. By taking up a few roots like this at intervals, a good supply of salading can be kept up till May. A few roots should at once be lifted and treated as directed. It is astonishing the amount of salad that can be obtained from a small number of plants.

The Wireworm Pest Again.—Once more readers are asking how to deal with the wireworm pest. Now there is nothing like cultivation to keep this very destructive pest away. Turn over the ground on every conceivable occasion and break in two every wireworm that is seen. All soil pests dislike being disturbed, and if brought to the surface are readily devoured by robins, starlings and other birds. Wireworm generally abounds in the fibrous roots of grass, and is almost certain to be troublesome when old pastures are broken up. A dressing of soot and lime is often recommended. This will keep slugs and leather-jackets at bay, but it has very little, if any, effect upon wireworm. The latter may, however, be trapped by placing sliced Carrot or Potato under the surface of the soil. These baits should be attached to pieces of stick so that they may be lifted occasionally, and the wireworms be taken out and destroyed.

The Oregon Grape (Berberis Aquifolium).—The fruits of Berberis Aquifolium or Mahonia are edible, despite the fact that many people seem to regard them as poisonous. In America they are known by the name of Oregon Grapes, and are preserved in the same way as recommended in cookery books for the fruit of the common Barberry (Berberis vulgaris). The fruits of the Mahonia have been abundant this year, and doubtless many have been induced to make jam of them, but we do not think that it warrants the expenditure of sugar. The skins and seeds of the fruits are such a nuisance that we have heard the jam referred to as a "moraine mixture." The fruits are better for making into jelly, in the same way as Red Currant or Blackberry jelly, when the skins and seeds are removed by straining.

The Manchurian Walnut.—In very few years is it possible to record such an abundant and varied harvest of the fruits of trees and shrubs. The Manchurian Walnut (Juglans mandschurica) is a case in point. It is not a common tree in this country and has not fruited with any regularity, but it usually flowers well. As a rule, it flowers early, hence it is often damaged by cold winds or late frosts, but this year flowering was delayed. The fruits shown in the illustration were borne on a tree about twelve years of age, some 18 feet high and almost as much in spread. This tree has fruited this year for the first time, bearing about two dozen bunches of fruit. The Nuts in their green cases are closely packed along a stalk. That which we illustrate had eighteen Nuts before the upper ones fell off. The kernels are sweet and oily, but they are rather difficult to extract on account of the hard, thick shells. Another year when the fruits are plentiful we suggest that they should be pickled in the same way as the Nuts of the common Walnut when very young.

FRUITS OF THE MANCHURIAN WALNUT.

To Save 10,000,000 Trees.—As the result of an enquiry conducted by the Board of Agriculture, there are in the hands of nurserymen in this country some 10,000,000 forest trees which will be destroyed if they cannot be planted out into the forest during the planting season. In order to avoid such waste the Board have under consideration a scheme for training forewomen to supervise planting operations, and for organising gangs of women planters for landowners who desire to undertake planting operations. Enquiries should be addressed to the Board of Agriculture, London.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

GOOD OLD GUERNSEY LILIES.

AN Australian soldier lying in a London hospital, after an encounter with an enemy "whizzbang" in France, recently wrote to ask me if I could spare him a few Guernsey Lily blooms. I sent all I could muster—mostly late-flowering seedlings of my own with flexuosa alba and undulata blood in them, and a few named varieties, including an umbel or two of Mansellii. Such are always treasured beyond their objective merits, for the beginning of Mansellii to bloom is, as it were, the family putting out their hands for a long "good-bye," and "the last" among flowers are not judged by the "curious" according to ordinary standards. These treasures left home for the wider world of a London hospital. Their recipient has written me that they were unfamiliar flowers to the visitors, nurses and inmates of his ward, but that since their arrival they have decidedly "ruled the roost." To reverse a well-known New Testament proverb: "If they do these things in a dry tree, what shall be done in the green?"—JOSEPH JACOB.

PROPAGATION OF THE CLEMATIS.

AS one who over a period of many years grew the Clematis largely in a private garden until forced to desist by hopeless failure, perhaps I may be allowed to give my experience in relation to the present discussion. I am obliged to say that if Mr. Robinson's last contribution (page 515) had been unsigned, there would still have been abundant evidence of its authorship. Its whole tenor is of point-blank assertion or denial, without proof, of Mr. Jackman's reasonable arguments. "I deny it absolutely." "'Die-backs' do not occur in plants naturally grown." "I do not admit it." "The question is not clear." "I think Mr. Morel is wrong." "The question amazes me." "Mr. Glover is wrong." Really, language of this kind can only defeat itself; seekers after truth do not write in this way. Now let me give my own experience. When one after another, suddenly and mysteriously, my splendid Clematis plants, many of them long established and covering large spaces, died, I felt as certain as Mr. Robinson that grafting was the cause, and set to work to replace them by plants from cuttings and layers. But when not only one but several generations of these "natural" plants perished in precisely the same way, I suspected an infectious disease, and my final and utter inability to get any self-rooted Clematis to live at all confirmed me in the belief, though at that time I was ignorant of the nature of the parasite. As one man's positive experience is as good as, if not better than, another man's negative, this disposes of Mr. Robinson's rash assertion that "die-backs" do not arise in plants naturally grown. Mr. Jackman's Question 3, which Mr. Robinson dismisses unanswered as "not clear," was perhaps somewhat too awkward a one for Mr. Robinson's case. It was, in substance, this: If the source of infirmity is the unsuitable stock, how is it that shoots *below* the dead parts sometimes remain healthy, and that the stock will send up vigorous growths to restore the plant? The answer, of course, is that it is a case of infectious disease beginning high up and not in the stock at all. This I have seen again and again. Finally, I entirely fail to see any difference between a plant from a layer or cutting and a grafted plant *which is strongly established on its own roots*. How can you have more than this, whichever way you propagate?—V. M. H.

SAVING SEED OF FORGET-ME-NOT.

WE annually use a large quantity of that lovely Forget-me-Not Royal Blue. As usual, I purchased what I considered an ample amount of seed, which was sown early in May. By the first week of June the seedlings were well up, but showed so very thin in the lines that I knew a shortage was inevitable. We were then lifting the last of the old stock, the seed of which did not seem fit to harvest. So I worked a piece of ground in the kitchen garden rather deeply with the Dutch hoe and strewed it thickly with the newly lifted Forget-me-Nots. They were left undisturbed for a month, and on being carefully removed we were cheered by the sight of thousands of seedlings. Doubtless the old plants, acting as a mulch, conserved the moisture in the soil and ensured the germination of every ripened seed.—CALEDONIA.

SURVEY OF THE FRUIT CROP.

I WAS much interested in the "Survey of the Fruit Crop," by Mr. E. Molyneux, in your issue of the 24th ult., and to find some of his favourite varieties are mine also; for instance, James Grieve, an Apple many growers are afraid to plant owing to its tendency to canker. I find it an excellent and regular cropper, very little canker, and flavour very good; one of the best in its season. I was much struck with the appearance of Ben's Red, seen for the first time this season, and decided to order some bush trees from an English nurseryman. Mr. Molyneux speaks highly of this variety. To show you the way in which prominent authorities differ in such matters as the utility of a variety, I will quote the reply of the nurseryman in question: "We regret being unable to send Ben's Red in any form. We have ceased to propagate this variety as it is of no value." Now, my trees are ordered and this variety is not included in my order. A variety grown somewhat largely in this district is Royal Codlin; it is a free cropper and flowers late in the season, thereby escaping late frosts. Locally, this variety brought £2 per barrel of 9st. It is likely to supersede Bramley's Seedling, as this variety scabs so badly of late years. Varieties badly attacked by scab this year are numerous, very few being entirely free from it, largely due to the abnormal amount of sunless weather and wet during late summer and autumn. Bramley's Seedling grown here by the thousand were very poor, both small and scabby. Newton Wonder, Gascoyne's Scarlet and Blenheim were also badly attacked. Will any of your readers say what is the approved means of counteracting scab on Apples and Pears, and give their experiences? It would be most valuable to many who are in vain trying to fight this pest, and if successful in diminishing it by even 50 per cent. it would be the means of putting fruit-growing on a much more profitable footing than at present. —WILLIAM R. SPENCER, *Manor House Gardens, Loughgall.*

OUR ANCIENT METHODS.

IN THE GARDEN of October 27 Mr. Chittenden recommends the making of experimental plots, and in another number a second correspondent points out the value of grading fruit. Some years ago a certain noble lord of active brain and generous disposition did his utmost to encourage such movements in a county that shall be nameless. He helped to found a co-operative society for purchasing seeds, &c., which was meant to lead the way to a co-operative society for selling produce. The small man only can grade his fruit and sell it to advantage by having a central grading place, and this it was hoped would be set on foot. But the small man was too full of suspicion of his neighbour and too blind to his own interests. An attempt was made to start a co-operative egg selling department. The railway authorities promised reduced rates, also an office at the station for £1 per annum, and the noble lord promised to defray all the expenses of collecting stations, carts, &c., for the first year; but the offer was not taken, the reasons being that stale eggs would be found out and some of the wives lose a day's outing at the markets. I showed Apples from the Herefordshire Fruit Co-operative Society and told of the good prices, but was informed that I was easily taken in. Since that time the Herefordshire Society has, I believe, collapsed through lack of loyal support. The same noble lord gave some land rent free for an experimental plot. A commencement was made with Potatoes. The various manures were supplied gratis and oversight given by a County Council Farm College. We were to supply the seed and labour and take all the profits. A committee of small-holders and market growers was elected to manage the plot. But there was a deficit! I tried to find the secret, and was privately informed that the committee considered it was dangerous to show good results, as their rents would then probably be raised! The plot had to be abandoned. Perhaps the war will wake us up. I felt that something like an earthquake must come before a change in ancient methods and from unworthy suspicion could take place. If the war does not effect this change, then nothing can do it but many years of education. The noble lord, although over age, joined a dangerous branch of our fighting forces, and died, as he had lived, for his country.—H. R. M.

A VEGETABLE PUDDING.

ARE not lots, if not all, of the recipes for cheap (?) vegetable dishes of little utility on account of the expensive decorative elements, such as butter, cream, &c., that enter into their composition? I have been practically a vegetarian for some years, to the advantage of my health, comfort, and enjoyment of life, and I can make a very good dinner off a vegetable pudding. This is by no means a novel dish, for I find its antitype prescribed in an early seventeenth century cookery book. The only fault one can find with it is the astonishing number of ingredients admitted into its composition. Any kind of vegetable is admissible, from Nettles to Tomatoes, but those to which I usually confine myself are Beans, Broccoli, Brussels Sprouts, Cauliflowers, Celery, Lettuces, Coleworts, Scotch Kale, Carrots, Onions, Leeks, Parsley and Peas. The young growths of Broad Beans and Peas are also used. The whole of these are shredded or grated very fine, mixed with Rice, and cooked slowly for three hours. The pudding is sufficiently appetising with salt, pepper and vinegar only, and the addition of Potatoes, but meat eaters would find it very nice with any kind of meat. The ancient recipe already alluded to admitted fruit, such as Apples and Plums, which I have no doubt would be extra nice, but hitherto our domestic food controller demurs to the addition of fruit of any kind. Usually the number of vegetables used at one time is six to eight, and one soon learns to choose the nicest in season. During winter dry Broad Beans replace the young ones of summer, and Peas similarly. Onions and Leeks are seldom used together, and of the Brassicas usually no more than two. Lettuce and Carrots are always valued. I do not care for Spinach, but that, of course, may be a matter of taste. Potatoes are best cooked separately. The question of cost has repeatedly been brought up when recommending this dish. On the whole,

VERONICA SALICIFOLIA IN JULY.

VERONICA ANGUSTIFOLIA IN NOVEMBER.

of both species, I am sending them for reproduction. My experience agrees with that of Sir Herbert Maxwell as to the time of flowering and other specific distinctions. V. salicifolia with me attained a height and diameter of 4 feet in about four years from a cutting, flowering profusely in July, as seen in the accompanying photograph. The species known as parviflora is, I believe, angustifolia, and I wonder if the typical parviflora is in cultivation in this country. The plant in question flowers with me in late autumn, and is often at its best in November, during which month the photograph herewith was taken, representing a plant about 2½ feet high. Both species suffered severely last winter, but both have been making good growth from the base, and bid fair to attain their former proportions if mild winters prevail.—E. J. Allard, *The John Innes Horticultural Institution, Merton Road, Merton, Surrey.*

THE WILLOW-LEAVED VERONICA.

I HA VE long interested in the erect, spike-like speedwells respecting Veronica salicifolia and V. parviflora, and as I happen to have photographs

THE USELESS ELM.

IN reference to Mrs. Earle's remarks on the "useless elm," in what class is a popular demand for Elm boards for kings' furniture and cabinets for cheap clothes, and for coopers' hoops for the rims of tubs, buckets, and churns, the Spanish Chestnut, grown from imported nuts, generally produces a poor tree, as the growth is often too fast, the timber not nearly so useful as that from trees raised from English Nuts. There is a great demand for Chestnut underwood for the pheasant hunting and for park fencing, and the annual sales have revealed very high prices. In planting up our Kent woods, buyers insist on plants from English Chestnuts, as they make a strong, upright growth, whereas the Spanish variety yields faggot wood and a small portion of timber.—George Bunyard, *Maidstone.*

REPRESSION OF WIREWORM.

THE notes on breaking up grass land on page 452 of The Garden of October 20 are obviously written for farmers rather than for gardeners; nevertheless, they have an interest for horticulturists. Particularly is this the case in respect to wireworm. Well-rolled soil is advocated, because loose soil favours the movements of the grubs. An "open, dry soil" is referred to, as though looseness and aridity go together. But we have always been taught to hoe regularly and maintain a loose crumb of soil, for the reason that it retains moisture. And more especially have we been taught to provide Potatoes with a loose, friable, rather than a firm medium. It seems as if those who turn in turf must be prepared to modify the standard garden practice to serve a particular purpose. I am satisfied that wireworm is more at home on a light, friable soil than on stiff clay. I have broken a good deal of turf on both types of soil and found that wireworm and the almost equally nefarious leather-jacket are more abundant by far on the former than on the latter. But surface firmness is not enough to exist. Only this last winter I noticed how greatly leather-jackets are favoured by loose soil. Several lawns were broken up for the extension of kitchen gardens. Some of the plots were trenched, others were merely dug over. In the former case the leather-jackets were buried deeply, and the birds could not get at them; in the latter they were left near the surface, and the birds found them out. Rolling, then, has its value in repressing wireworm, and, if the soil is dug, a firm bottom is better than a loose one. Rolling, too, is a great aid to the gardener in the spring, when he has to sow seeds in a seed-bed. Rolling before sowing and after sowing and after germination has taken place, and rolling again when the seedlings are pricked out, are all helpful in the production of a good crop of seedlings. Rolling, however, is not a panacea for all evils, and it is not to be expected that it will destroy wireworm. Nothing will do that. But it will help greatly to reduce the pest. But, after all, the gardener is better placed than the farmer, in that he can readily strip and stack the turf to rot, and in many cases that is the best course.—W. P. W.

"FORMAL" AND OTHER GARDENS.

FRANKLY, I think people who indulge in arguments upon adjectival meanings have committed one or more of three grievous sins: They have failed to grasp the fundamental principles of gardening (without a qualifying adjective); they have strained at gnats and swallowed camels; or they have bartered their sincerity for a song, and an old one at that. R. L. Stevenson said, talking of gardens: "Give me much lawn against the early summer, so as to have a great field of Daisies, the year's morning frost." He was no gardener, you say, because he loved to see Daisies where Daisies "didn't oughter be." But he knew what he was talking about, otherwise he could not have added, "The old flowers are best and should be grown carelessly in corners. . . . The ideal fortune is to find an old garden, once richly cared-for, since sunk into neglect, and to tend, not repair, that neglect." We once found such a garden. It was the work of no man's hands. Neglect gave it what it has given us. And because of that do we ever contrive to foster that neglect, trying not to forget for a day or an hour those corner stones of truth upon which the foundations of our garden were laid. Mistakes? Of course, there have been mistakes in plenty, rueful errors of judgment for which Nature imposes punishment so condign that one smarts under her cold shadow of reproof until repentance and energy have succeeded in righting the wrong. To the florist who specialises in Roses, Carnations, or Violas we owe much. We can admire his Chrysanthemums, as the poet did, with "a brother's interest," because he has impregnated the flowers, humanised them, "with the thought and will of man." But do not, for the love of gardening, call him a gardener. For, after all, there is, intrinsically, no difference between the spirit of the rosarian who grows for the exhibition stage and that of the enthusiast who specialises in Savoys to the same end. The rudimentary essentials of gardening must, as I have implied, come from the lips of Nature and the lap of Earth. Hillside and moor, woodland and meadow and the track by the river; Loosestrife, hedgerow Woodruff, and Bog Asphodel blazing in vermilion among the dying Heath: these are for ever tirelessly pointing the way, the way to the only inspiration worth attaining, the only gardening that matters to me who is a gardener and not a florist. But we are beginning to understand gardening if we still trip over English adjectives. "Like a child escaping from the dreams of night," man rubs his eyes and begins to see a little of the world of flowers as it is, and as it always will be to the end. In the new light of his awakening he perceives, as on a photographic plate, the slow unfolding of those eternal truths which have been hidden from his vision, and he goes forth into the day as one restored to sight.—A. T. Johnson.

*** Answers also have not already been given to queries will be found in the Answers to Correspondents at the end of the present number. The Editor of The Garden regrets the return of unused copies of any journal to publishers, and in consequence has adopted a definite limit to unused letters.

THE VINE ON WALLS OUTDOORS

A FERTILE SOIL, A SUNNY WALL AND SUITABLE VARIETIES ARE ESSENTIAL TO SUCCESS.

THE Vine is not very commonly grown upon walls outdoors in the British Isles for the sake of its fruit; nevertheless, there are many districts where if thus planted it will flourish and produce fruit fit both for dessert and making wholesome wine. The walls should have a south or west aspect and be fully exposed to the sun, so that the wood or fruit can reap the full benefit of the sun's influence, which is essential to success. The soil must also be suitable for the Vine's requirements. A fertile deep loam naturally well drained is best, and all the preparation such a soil wants to be made a satisfactory rooting medium is to be trenched and broken up 2 feet deep. By incorporating a good supply of crushed bones, wood-ashes, and lime or old mortar rubble, most soils are rendered suitable for Grape culture. Thorough drainage is necessary.

Strong young canes may be planted early in October before the leaves fall, or in spring when their buds are bursting; in either case they should be cut down to three buds from the base while dormant. Carefully remove the soil from about the roots, disentangling and regularly spreading them out not more than 6 inches and not less than 2 inches below the surface; this should be made quite firm, and subsequently mulched with short litter. The Vine succeeds best and is most simply managed when placed upon moderately high walls, with its shoots trained 3 feet apart in a vertical position. It can be restricted to one rod or more as desired, and planted accordingly at 3 feet or more apart. With the single-rod system all growths but the strongest one should be removed; train this in position, and stop it when 3 feet long, allowing its subsequent leading growth to extend indefinitely, and stopping the laterals beyond one leaf. The winter pruning merely consists in shortening the Vine to within 3 feet of its base at the point where it was checked, and closely cutting away the lateral growths. The following season the leading young shoot should receive similar treatment, and the laterals arising beneath it be so disbudded that the strongest of them only are left; arrange them about 16 inches apart on either side of the Vine. They must be stopped so that they meet half way those of the adjoining canes, and the sublaterals be pinched at the first leaf. At the winter pruning the leading growth should be treated as before, while the laterals upon the older part of the Vine stem should be cut back to two prominent basal buds. This method of management gives sufficient space for the wood to become thoroughly ripened, and should be followed until the allotted space is filled, after which time the training and pruning will be wholly confined to the laterals. When Vines have more than one branch or "rod," each should be treated as if it were a separate Vine.

Vines may be lightly cropped the third season after being planted, but at no time should a lateral be permitted to carry more than one bunch, and the weight of the fruit that established Vines may carry must be governed by their vigour and size; overcropping, however, always has an enfeebling effect and impairs the quality of the fruit. There is no better stimulant than the drainings from cowsheds and stables, which can be applied in a diluted form during the growing season as well as in the autumn after the fruit is gathered. Top-dressings of light soil, bone-meal, or similar rich fertilisers used in the autumn are also of much value, while, during seasons of drought, mulching the borders with short litter is beneficial. The most virulent enemies that the Vine on walls outdoors is subject to are red spider and mildew, but if the Vines are kept adequately supplied with nourishment and moisture at their roots, and properly syringed with soft water in summer, attacks of red spider will be comparatively rare. An efficient remedy for mildew, which is very injurious if permitted to take its course, is Bordeaux mixture; this should be applied in a fine spray. Flowers of sulphur, which should be distributed with a dredger, also make a good remedy. As a winter dressing after the Vines have been pruned and the loose bark removed, Gishurst Compound, used at the rate of 4oz. to a gallon of hot, soft water and well rubbed into the crevices, so that the whole surface of the rods is thoroughly soaked, is a very effectual cleaner.

MOORE'S EARLY GRAPE TRAINED AGAINST A SHED.

Of varieties, Sweetwater is excellent for general purposes. Black Cluster and Royal Muscadine are also useful. Reine Olga should be added; it is a varitey of great excellence, and has obtained an award of merit from the Royal Horticultural Society. Its colour is tawny red; the bunches are large, while the flavour is rich. For ornamental uses Vitis purpurea, V. Coignetiæ, and the Parsley-leaved Vine are invaluable.

AN OUTDOOR GRAPE.

I AM sending you a photograph of a tree of Moore's Early Grape. This is a useful hardy black Grape, ripening early out of doors. The berries are sweet and yet have an astringent quality that reminds one of the Strawberry Grape. It suggests a North American origin and possibly some connection with Vitis Labrusca; but on this point I would ask for correction. The leaves, rather widely spaced upon the branches, are for the most part undivided, though some of them are bluntly three-lobed. J.

[Your correspondent "J." is right in thinking this Vine has a North American origin; it was raised by Captain John B. Moore of Concord, Massachusetts, from a seed of Concord some time before 1870. Concord is undoubtedly a descendant of Vitis Labrusca, and is the most popular Grape for general culture in the States. The story of the repeated attempts to acclimatise our European Vines in North America makes an interesting chapter in the history of plant wanderings, and it was not until they were hybridised with native species that it was possible to obtain hardy and mildew-resisting varieties. Of these, Concord is a standing example, and its descendant, Moore's Early, bears witness to its parentage in the slight "foxy" taste to which your correspondent refers. I am testing a collection of hardy Vines on the wall, and in the present year the only one which is likely to ripen with me is Millers Burgundy, which, though known to Miller of dictionary fame, does not deserve the apostrophe often awarded to it, but is so called from its leaves being covered with white hairs when young, recalling the flour-dusted miller. If "J." can spare me a few cuttings, I should like to include them in my trials.—E. A. BUNYARD, *Allington, Maidstone.*]

OUTDOOR GRAPES IN LONDON.

THE Black Hamburgh Vine, from which the Grapes shown in the illustration (page 529) were cut, was planted six years ago in a narrow border on the south-east side of a dwelling-house. The subsoil being stiff clay, good drainage had to be prepared, and the border was made up with ordinary loam, with a liberal admixture of ground bones. This Vine, as well as an Esperione on the south-west side, are pruned on the spur system. The Grapes were thinned in July and only a dozen bunches were retained. The Vine, having now a stem of 3¾ inches in circumference, could, no doubt, have been allowed to ripen more bunches, but it was thought wiser not to overtax its strength, as fresh wood was required for extension. The Grapes began to colour early in September and finished well, most of the bunches keeping their bloom. The Vines have fruited and ripened regularly for the last three years, some of the best bunches weighing over 1lb. Both in flavour and sweetness these Grapes compare favourably with those grown under glass. O. ROSENHEIM.

Hampstead Garden Suburb, N.W.

[We might add that our correspondent was recently awarded a silver Banksian medal and a

GROWN IN THE OPEN IN A LONDON GARDEN.

cultural commendation for outdoor-grown Black Hamburgh Grapes by the Royal Horticultural Society, after the Vines had been inspected by a deputation from the Fruit Committee. The bunches shown in the accompanying illustration were cut in October.—ED.]

THE CULTURE OF FRUIT TREES

OF BERRIES IN THEIR KINDS.

QUITE one of the most interesting features of the last twenty years in the fruit garden is the arrival of many new species and hybrid Rubi. Many of them already fill a very useful place, and, from what leaks out occasionally, I gather that this new invasion is not yet by any means over. There are some who condemn the intruders wholesale and will have none of them, but there are among them many which may be considered as permanent features of the fruit garden and very valuable additions. Coming as they do from many parts of the world, it is not to be expected that they will thrive with equal vigour in all gardens, and I will give my experience of them as they behave with me.

The Loganberry Group.

Of this group the Loganberry, the first to be introduced, is still the best. Even the man in Fleet Street knows this fruit, so no description will be needed on this occasion. There is nothing, in my opinion, better to put into a bottle. It is necessary to give plenty of room to the plant, and also to feed well. The great enemy of this fruit is the Raspberry beetle (Byturus tomentosus), and this persevering insect will find it out even when far distant from the Raspberry, its natural host. When in bloom the beetles will be seen laying their eggs in the flower, and they must be shaken off into an umbrella or other receptacle and killed. A large piece of cardboard covered with Tanglefoot or other sticky material (a fly-paper or two, for instance) is also a convenient method of trapping them. Neglect of this precaution will lead to a ring of small maggots floating around the top of the bottled fruit; and in some places the attacks have been sufficiently bad to prevent the development of fruit altogether.

Phenomenal.—This is supposed to have a smaller core than the Loganberry, but the difference to my eyes is very slight, and it is not worth having the two varieties. The Newberry is identical with this sort.

Laxtonberry.—This interesting fruit is a cross between a Raspberry and the Loganberry, and has the growth of the latter with a fruit like a magnified Raspberry. The flavour is pleasant, but the fruit breaks up into its constituent drupes when gathered, which makes it useless for any purpose but for eating straight from the tree.

The Blackberries.

These may be divided into the American varieties and those of a hybrid origin having black fruits. The American varieties have been condemned times without number as unsuitable for this country; but this judgment is, I think, rather sweeping. On the whole, they do not compare favourably with our native Blackberry for flavour, but many of them come in much earlier, so that they are worth a further trial. They can be divided into groups according to the species from which they have been derived, and this grouping is a matter of some importance culturally. The strong-growing varieties derived from Rubus nigrobaccus make tall bushes as strong as a Loganberry, while those derived from R. canadensis (now "villosus," I believe) are of trailing habit and thin, whippy growth, Lucretia being, I expect, the best known of this group in England.

Tall Bush Blackberries (R. nigrobaccus).

Agawam.—This is a strong grower, quite hardy, and the fruit is sweet. Dr. Durham reports it growing well with him at Hereford.

Snyder.—Extremely vigorous and with the habit of suckering badly. The fruit is very large but rather sour, and is ready three weeks before our own Blackberries.

Mersereau.—Similar to Snyder, but a little earlier.

I can hardly recommend any of the above as yet, but they are all hardy and, I think, deserving of further trial.

American Dewberry Group (R. canadensis).

I fear I have condemned these from lack of the knowledge of the right way to treat them. Last spring I found all my plants, which had been carefully tied up to stakes, killed to the ground, and gave them up for dead. However, in the early autumn I found some few shoots, which were covered with fruit, trailing on the ground. I have since heard from America that the plants will not stand the frost out there when trained to stakes, and they are always left to trail on the ground or even buried under the soil during the winter months. This year I therefore have preserved what shoots there are and covered them with a few clods of earth, and hope to see them again fruiting next season. The best known of this type in this country is Lucretia, which has now been sold for many years. The fruit is large, quite sweet, and very freely produced.

Wilson Junior, another sort long known in England, is a cross between this Dewberry section and the tall bush group. It fruits extremely well in many parts, and is perhaps the most successful of all the American sorts. It is hardy, and does not require laying down for the winter.

King's Acre Berry.—This bears a close resemblance to the above sections, and though its origin is not stated, one might presume it was a hybrid from some of the American sorts. The growth is moderate and the fruit of pleasant flavour.

Lowberry.—This also has its origin "wrapt in mystery," and I am told it is the Californian Mammoth. With me, however, it does no good at all outside, and will be scrapped this winter.

Himalaya Berry.—This might be described as a rampant form of the British Blackberry. Supposedly from the Tibetan slopes of the Himalayas, it turned up in Seattle in 1905, and came to this country quite recently. Anyone having seen it at Wisley will give it first class for vigour and productivity, though not for flavour. It bears from the old wood, and so does not need to be cut out after fruiting, as in other varieties.

Species of Rubi Valuable for Fruit.

The Wineberry (R. phœnicolasius).—This fruit, one of the prettiest of our climbers, was hailed with joy on its arrival as a fruit tree, but has of late been under a cloud, rather unjustly, I think. I had several dishes of fruits this year from one plant, and squashed up cold as a sweet they are most delicious and require no sugar! They have a flavour quite their own, very clean on the palate; and one of my after-war treats is to have them with cream. There is probably a liqueur which was made for them as a friend of mine tells me that every fruit has

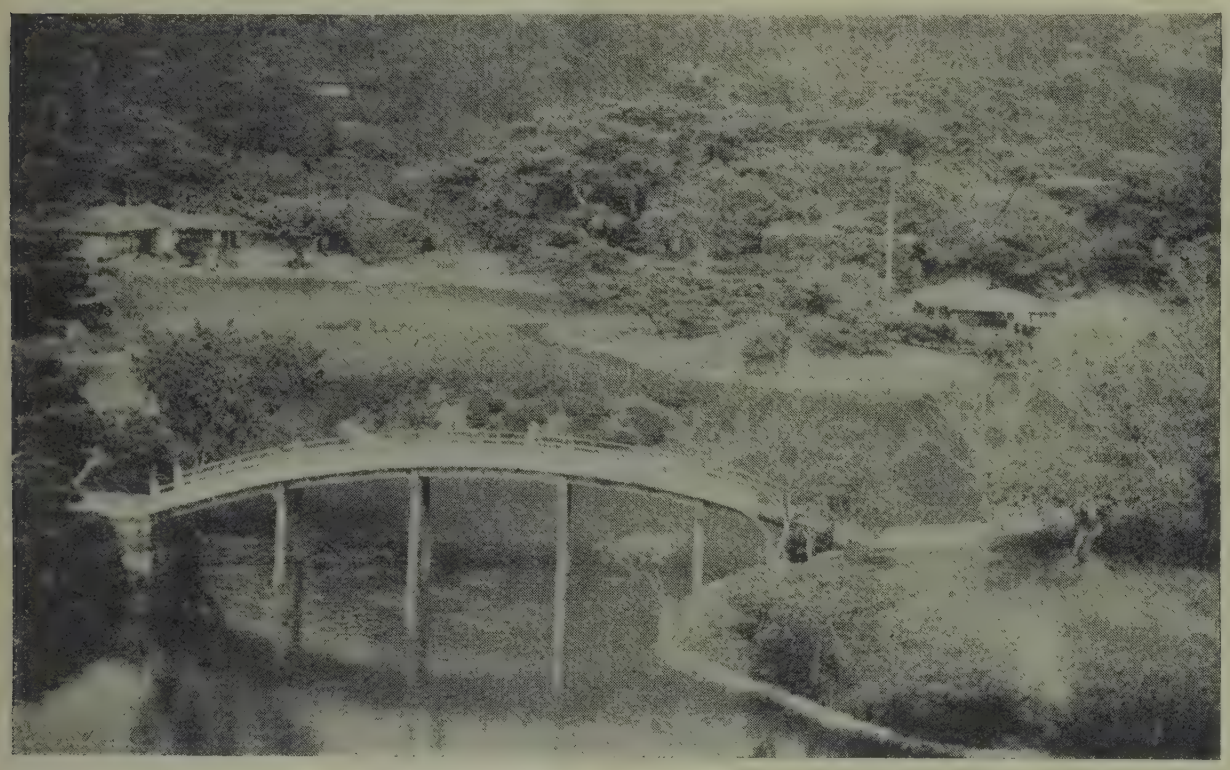
its own appropriate one, and I must confess that rum is justified of its existence when used with Black Currants.

My last group is, happily, small, and should be headed, following Quintinye, "The worst of an hundred." Here I place The Mahdi and R. innominatus so far as their fruit value is concerned. May they rest in peace, but preferably in someone else's garden! E. A. BUNYARD.

Some Notes About the Hawthorn

"The Hawthorn bush, with seats beneath the shade
For talking age, and whispering lovers made."
—GOLDSMITH.

IN my notes on the Laurustinus I told you that it was the emblem of cheerfulness in adversity because it brightens our gardens in the dull, dark days of winter. The Hawthorn or Whitethorn (the botanist says Cratægus and the children "May"), though



A GARDEN IN SHIKOKU IN SOUTHERN JAPAN.

a child of the "sweet month," is nevertheless a boon companion of the Laurustinus, because it is the emblem of contentment, and also because, in the autumn, it brightens up our hedgerows with its polished haws until late in the season, when cold weather forces the birds to gobble them up.

I suppose it is because there are almost legions of species and subspecies of Thorns that people are scared when they consult a catalogue, and so end by planting only a "red May." And a very beautiful tree it is, too, especially when you procure the real Paul's Double Scarlet, a tree that glows with rich crimson for a fortnight when it is in bloom, and was introduced many years ago by my old friend Mr. George Paul of Cheshunt. But, like other double flowers, this does not bear haws, and to get these the single rose or single scarlet forms of Cratægus Oxyacantha must be planted. The yellow-berried form of our native Hawthorn is well worth planting in a hedge, while the graceful pendula makes a very pretty specimen tree.

But the Thorns I have in mind to-day are the Large-fruited Hawthorns, to which the Editor drew attention recently when I sent him some fruits of the noble C. coccinea. This tree has been introduced long enough (1683) to have its merits known on all sides, yet it does not find a home in the great majority of gardens, and, indeed, few people know it at all. Early in October I happened to go to the little village of Ombersley, eight miles from here—a village much beloved of Americans (before the Kaiser put an end to their little joy-jaunts across the water!) on account of its lovely old half-timbered houses and charming surroundings. In this village may be seen several specimens of the Scarlet-fruited Thorn, and one tree about 18 feet high, growing in a coppice on Lord Sandys' estate close to the road leading to Holt Fleet, was a blaze of colour, looking in the distance as if it were covered with little dabs of red sealing-wax. This was a particularly fine form of coccinea, so much so that when I sent fruit of it to Messrs. B., they pronounced it to be C. mollis, which I knew it was not, because this has pubescent (or woolly) leaves. The differences between the two trees, of which mollis is the best, may be summarised as follow:

Cratægus coccinea.—Relatively large bright green leaves, roundish-ovate in shape and glabrous. White flowers nearly an inch across in dense corymbs. Brilliant coral red, moderate-sized berries, ovoid in shape and scarcely edible, though not unpleasant. It is among the earliest to flower of all the Thorns, and in autumn it dies off tinged with yellow and red.

Cratægus mollis.—Close to the above, but the flowers are larger and have a more conspicuous red centre caused by a small red mark at the base of each petal. The tree grows about 15 feet high, with spreading head and large, firm leaves slightly pubescent on the back. Fruit ovoid, medium size, bright crimson. Not so strong a grower as coccinea.

The Tansy-leaved Thorn (C. tanacetifolia) is also seldom seen outside a good garden or nursery, though handsome in foliage, flower and fruit. It is not of such graceful habit as our native Hawthorn, but it has larger flowers and very *fragrant* fruits, yellow, and as large as a Cherry. It is one of the latest Thorns to flower, and may be readily recognised by its cut leaves of a whitish hue ("deeply pinnatifid, downy," as "Nicholson" describes them). There are several varieties, and the best to plant is tanacetifolia Leeana, raised in Lee's renowned old nursery at Hammersmith, which has larger and more deeply cut leaves, and the tree is of more erect and fastigiate habit.

The Eastern Thorn (C. orientalis) must conclude my brief list. This is near tanacetifolia, but it has large purple, five-cornered, smooth fruits, hairy leaves, and branches covered with hoary tomentum. It is a native of the Levant, grows from 10 feet to 20 feet high, and was introduced in 1810.

These Large-fruited Thorns are most beautiful objects in the autumn garden, and provide a feast of colour in the house when arranged with Chrysanthemums and Michaelmas Daisies; and in districts where the birds allow the fruits to hang late upon the trees, their beauty helps to reconcile us to the advent of the wintry days. Then, remembering its emblem, we can repeat to ourselves those words of Beaumont's:

"He that from dust of worldly tumult flies,
May boldly open his undazzled eyes,
To read wise Nature's books, and with delight
Survey the plants by day, the stars by night.
We need not travel, seeking ways to bliss;
He that desires contentment, cannot miss:
No garden-walls this precious flower embrace—
It common grows in ev'ry desert place."

Kidderminster. ARTHUR R. GOODWIN.

JAPANESE GARDENS

PERUSAL of the correspondence in THE GARDEN concerning gardens, formal and informal, has led me to believe that readers might be interested in photographs of some gardens in Japan. It is said that every nation has the government it deserves. It is less open to doubt that most countries have the gardens best suited to the dwellers therein. To the artistic eye of the Japanese there is little attraction in a flare of colour such as is often seen in our herbaceous borders, cleverly blended into one another though the colours may be, and doubtless the excessive heat of the summer and the trying glare make the dull green and greys of the shrubs and trees and stones far more restful and peace-giving, attributes as important in a garden in a sub-tropical climate as is the cheerfulness of our brightly coloured borders in our less sun-favoured island.

It is, of course, well known that landscape gardening in Japan is a high art, and the wealthy Japanese will spend a great deal of money on a well-laid-out garden, and will, in particular, give large sums for well-shaped stones and rocks shaped by a mountain stream—not by the hand of man.

The use of stones is, indeed, one of their most attractive accomplishments—it would not be far wrong to say "secrets"—for most of the reproductions of Japanese gardens elsewhere would seem to fail from the unsuccessful use of stones, attractive though they may seem to those who have not been fortunate enough to visit a garden in the country of our Far Eastern Ally. Japanese landscape gardeners have, however, been engaged to lay out gardens in England and America, and the apparent failure may be due to suitable stones or rocks being unobtainable for the "framework" of the exiled gardens.

The first illustration shows part of a famous old daimio's demesne, now public property and one of the three famous public gardens in the country. It is situated in Shikoku in Southern Japan. The others are snapshots in two well-known Kyoto gardens. K.

The Herbaceous Border in Winter

AT this time of year or a trifle earlier, and year after year with tireless regularity, a curious and silly thing happens in most gardens. People cut down and burn the dead herbage in their herbaceous borders, dig over the soil, and leave all spick and span for the winter. If they cut down and burnt their herbaceous borders in June, it would be a silly thing to do; but not nearly so silly as cutting them down in November. In June the shorn plants would soon begin to grow. In a very few weeks the border would be a blaze of colour again. But nothing will replace the lovely haze of autumn colour once it has been cut down in November and burnt. What was a fine picture of yellow and red, russet brown and straw colour must remain a flat desolation for four solid months or more. People can see June flowers and so leave them alone. Few folk see the beauty of a border in autumn and winter. It is a haze and not a blaze, and they do not recognise it. They might think the same colours very nice in terms of a tweed suit; but when found in the border a silly garden tradition tells them to cut and burn. They might even recognise such beauty in a water-colour drawing. I wish some owner of a big herbaceous border would stand over it with a flaming sword and keep out the tidy gardener until the end of November, and then get, say, Mr. Alfred Parsons to come and paint the effect. It only needs a little propaganda work by our best garden painters to kill this wretched garden habit of cutting and burning winter beauty. As it is, a little band of tidy souls writes regularly, year after year, to the gardening papers to tell us not to fail to cut and burn and dig and tidy. I have found them doing it for years and years. One would almost think they turned up back numbers of those papers for annual inspiration. Perhaps they do.

It would be rather interesting to trace the tradition back and see when it began. It has gone on for so long now that the doctrine is almost universally accepted and acted upon. And it is really very foolish. Supposing one wrote to a gardening paper one November (of course, no living editor would print it, but what editor in the dim past allowed the cut, burn and dig tradition to originate?) and said that now was the time to sponge the leaves of Holly trees and pull off the berries so that they might be ripened safely in a cool, airy outbuilding. I wonder, if one wrote such nonsense with enough solemnity, how long it would be before it became a hardy annual in all the gardening papers. We are all rather apt to follow one another in our gardens. The gardener at "The Lindens" notices that the gardener at "Beau Rivage" next door mows "the grass in front" on Thursdays. In course of time he begins to think there must be something in this, and follows suit, until, in the course of still more time, half the gardeners in the terrace are religiously mowing "the grass in front" on Thursday. It has become an article of faith with them. I exaggerate a little, but not very much, and you know what I mean. So next June go over your border with a scythe if you will, but guard it with the flaming sword in November and start a new and reasonable tradition.

Stevenage. CLARENCE ELLIOTT.

IN A WELL-KNOWN KYOTO GARDEN.

IN ANOTHER KYOTO GARDEN.

AUTUMN CUCUMBERS

AS a winter crop the Cucumber is rather expensive and demands constant attention. But it has many advantages. In other respects it compares very favourably with the Tomato and is less liable to disease. A good house is essential, although it is possible to adapt practically any heated structure to the needs of the crop. Plenty of heat and careful management are both necessary. Besides the heat, the air and moisture must be well regulated.

It is unlikely that there will be any new erections of Cucumber-houses while the war lasts; therefore we will leave the question of house construction for the present.

Heating is the secret of success. Everything else may be favourable, but if the heating is not right, all will be wrong, for the crop will fail. The size of the boiler and the amount of piping required will depend upon the size of the house. Hot-water piping is the best means of supplying heat, and there should be sufficient of it to provide an adequate temperature. An even temperature at 70° or 75° should be maintained. The former is the best if the plants are desired to last long. Dry heat is fatal, and in making the sites for the plants the bottom of the boxes or other receptacles containing the soil in which the plants are to grow must not come directly into contact with the pipes. Really, the bottoms of the beds should rest on rods or bearers that allow 6 inches of air space between them and the hot-water pipes. This method is called the bench method and is most successful, although there is little doubt of the usefulness of both pit and border beds.

Before a commencement is made, and as a preventive against disease and insect attacks, the house, woodwork and glass, should be thoroughly cleaned and disinfected. Stop all holes in the woodwork and brickwork, after clearing out any rubbish remaining from previous crops. This rubbish should be burnt. Remove any remaining summer shading and other obstacles to light. Every scrap of available light will be needed during the dark days of autumn. Commence the beds with a foundation of turf and old coarse manure. Do not use fresh manure. Success depends more than a little upon the preparation of the compost. For this purpose decayed turf is very useful, and there is plenty of it stacked away in the newly created allotments. Such material is best because it is rough and coarse, which is just what the roots of the Cucumber like. It will also afford good drainage and prevent the souring of the soil. In addition it provides a porous medium through which heat is readily and evenly diffused. Plants may be set in the usual way for greenhouse work, or they may be set in mounds. Many persons prefer the latter method. Beds and mounds should be made up some days before the plants are set out, in order that the soil may get a chance of settling and of becoming thoroughly warmed through. When making a start, open the mound of soil where a plant is to be set and place in it a handful of good leaf-mould; then set the plant firmly, water with lukewarm water and close the ventilators. The roots will appear through the soil from time to time during the season. When they do this, cover them with a layer of compost. Supply manure-water when the plants begin to make a start. Great strain is made upon the plants while bearing, and for this reason they will require adequate feeding. But one needs to guard very severely against waterlogging. There will be no danger of this if the bed is made up of good, loose and coarse turfy material as indicated above, and if fresh compost is added from time to time. It is much better to add the soil gradually in this way rather than to make up a large bed by adding all the soil when the plants are set out.

The plants may be trained on trellis, or by any other method which the grower may desire. Anyway, when the plants are about half way up they should be nipped back. As a result of

shortening, side shoots will appear. Now I do not believe in stopping plants too severely, because vigorous growth is a desirable feature, and cutting back hard checks growth. In this matter individual judgment is required. The side shoots should be shortened when they have made growth to the extent of about 2 feet. Overcrowding must be avoided and surplus growths removed at all times.

Care and skill are both essential to the successful wintering of Cucumbers. Care is perhaps the most important factor. One respect in which this quality must be constantly and properly exercised is in the matter of regulating the atmosphere. The moister the air is in the house, the better the plants will thrive. Unfortunately, this condition is not compatible with sweetness and freshness, and there is nothing more certain to produce an outbreak of disease than a close, stagnant atmosphere. Sweetness is only obtained by ventilation, and currents of air not only carry away moisture but are also liable to check and chill the temperature. This is where care and skill are necessary the object being to secure a gentle circulation of warm, moist air and to avoid stuffiness and the admission of sudden blasts of chilling air. In cold weather, moisture may be obtained by sprinkling the walls and floor with water.

When fruiting commences, attention must be given to the plants to make sure they do not suffer in any way. Feed them well to encourage new and sturdy growths, as you will be dependent upon them for future bearing; that is, of course, if a regular supply over a long period is required rather than one or two heavy cuttings. Pots may be used for small crops if desired. Plants for succession are secured by making sowings as follows: One early in September, one early in October, and another early in November. The next sowing is not made until early in February. Fruiting from the first sowing should commence in November, and thenceforward, under good management, a regular supply should be available. Cuttings are best for pot culture. They do not produce crops as heavy as those from plants raised from seed, but under this method it is possible to obtain fruit earlier.

L. M. MARSHALL.

Ways of Using Celery and Celeriac

COOKED Celery may with advantage be eaten by those who cannot eat it in a raw state. Celery is doubtless of more value as a vegetable than many would think. Few vegetables are more delicious. I have been told that Celery is quite as valuable as Grapes or Apples when used in unlimited quantities, that it has certain medicinal qualities, and that there are few better foods for those who suffer from biliousness. My doctor friend even goes further, and says that as a tonic for the nervous system it is most valuable. I feel sure we could with advantage use all kinds of vegetables, especially green ones. Celery is not regarded as a profitable vegetable, as much of the outer leaf cannot be used; but this is not so when cooked as a vegetable, as the green parts, even the leaves when boiled are good, but the last are

valuable for soups, as they are of stronger flavour. Celery cannot always be bought in a fresh state, but if not frosted it will keep fresh a long time, so that if possible it should be obtained when firm. If wrapped in a damp paper or cloth and then placed in dry paper or in a place where the air cannot reach it, it keeps fresh much longer. I have kept roots six weeks in the spring in a cool store quite dark, the heads wrapped in paper, except the green portion, and the roots just touching the water. In spring, when the weather becomes warmer, Celery when lifted may be kept some time; it becomes tough and flavourless in the growing quarters.

Just a note as to the cooking, and here I may be taken to task, as cooking is not connected with the culture, except that we are often blamed for poor vegetables when the cooking is at fault. The common way of serving whole Celery is in a stewed form, and served with white sauce or brown gravy it is delicious. Few vegetables are more appetising than Celeriac, the Turnip-rooted Celery, which is even more solid than the ordinary Celery, and much liked. This can be cut in slices and fried or served cold. On the Continent Celeriac is a favourite winter vegetable, and with advantage could be more largely grown in this country. I have referred to stewed or boiled Celery, and Celery cooked in the same way as Sea-kale is excellent. Celeriac, though closely allied, is quite a different dish, but of great value. The root is the edible portion, not the stalk, and when the roots are lifted and stored they keep well until the spring.

Fried Celery is a dish not much known. The white part is used and cut in lengths of from 3 inches to 5 inches, sprinkled with salt, dipped in a well-beaten egg, covered with breadcrumbs, and allowed to dry, as much of the egg and crumbs being used as possible. The lengths are then fried in boiling fat and served very hot. Another way is to cut in lengths and boil for half an hour in brown gravy and serve on toast, and for this purpose the solid or root portion is delicious. The Celeriac may with advantage be used in this way, cut in slices half an inch thick, and served as advised. Two large pieces of cut Celeriac will cover a small round of toast.

Baked Celery is liked by many, and this is prepared by placing the stalks, cut up small, in good stock, then adding salt and flour to thicken, first cooking it for half an hour before the last two are added. Many also use butter sparingly with the flour. Celery and cheese are by no means a poor dish, and here Celeriac may be used. The Celery

Then place in a dish, cover over with breadcrumbs and finely grated cheese, and add a few lumps of butter, salt, and other seasoning. Bake for a quarter of an hour and serve hot. This is a very nice dish after the sweets are served. Celery chopped finely may also be used as stuffing with breadcrumbs and butter. This is very good with chicken, and the green portion may be used for this purpose. Doubtless there are many other ways of using this vegetable. For instance, the roots of large Celery or Celeriac may be served like large Onions, braised, with rich gravy, and the tops come in useful for other purposes. W. G.

MAKING A HOTBED WITH LEAVES AT ALDENHAM.

This hotbed is surrounded by a wind-screen, and is useful for forcing various kinds of vegetables.

The Value of Tree Leaves

I HAVE long thought that the importance of tree leaves has not been fully recognised, and more especially do I think so now when the question of artificial heating is becoming more and more serious. My experience teaches me that there is no material which conserves heat nearly as long as fresh leaves when properly placed together. We have for a very long period made our hotbeds for forcing various kinds of vegetables entirely of these. Our plan is to choose a large open space and enclose this with stout posts and rough slabs about 4 feet in depth, the leaves being gathered and placed therein. These are made very firm and raised about a foot above the level of the enclosure to allow for sinking. A number of standard-sized portable frames and lights have been made, which prove a great convenience. These can be brought into use at all seasons of the year. A mild, humid heat is maintained for months, which is well suited for the growth of nearly all kinds of vegetables that can be brought forward under glass.

Each year half the bed is taken out and replaced with new material, and the following year the second half is so treated. The excavated portion is invaluable for use as lightening material in so many branches of gardening.

Far too frequently leaves are collected and stored away in some out-of-the-way position and left simply to decay till required as leaf-soil, or, worse still, often consigned to the smother-fire. I am fully alive to the fact that it is not by any means all who can practise this to the same extent as we do here; but what can be done in a large way can equally well be carried out on a smaller plan, the principle being the same. I have tried many methods of producing early vegetables, but I know of none which is so satisfactory either from an economic or profitable standpoint, and, when once a commencement is made on the right lines, the frames can be fully occupied for the whole year, as by a proper method of rotation one crop follows another without loss of time and with very little labour.

The large quantities of leaves which at this time of the year are in very many places to be found by the sides of the roads, swept by the winds to block up the waterways and drains, should most certainly be brought into use by amateurs, cottagers and allotment holders, especially during these anxious times. The value of a portable frame can hardly be overestimated, and every effort should be directed to secure one, even by those possessing the smallest garden.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Tomatoes.—Sow a pinch of seed of Sunrise in order to obtain plants to take the place of any not satisfactory next spring. Plants now in 3-inch pots should be kept as near to the glass as possible to induce a stocky growth. Shift them into larger pots when they require more rooting space, in order to obtain healthy, vigorous plants that will give early fruit in the spring.

Cauliflowers.—Plants in frames should have the lights removed daily, keeping the plants growing sturdily, as they will be more suitable for putting outside than weakly and tall plants raised in unsuitable conditions. Any plants just forming hearts in the open should be lifted and put in a pit or cold frame, where they will come in useful later on.

Rhubarb.—Plots of young plants should have manure freely dug in among the clumps to induce vigorous growth and to ensure a clean surface.

Cabbage.—Stir the soil about the plants to aid growth and disturb slugs, which have been very troublesome, especially to late batches of plants.

Chicory.—Introduce a few roots at a time into gentle warmth, keeping the plants dark to induce blanched growths. If no other means exist, place several roots in a large pot under the greenhouse staging, covering the crowns with an inverted pot.

Grass Land intended for vegetable crops should be broken up as early as possible to allow time for the turf to decay. Trenching 2 feet deep is much the best method, burying the turf 1 foot below the surface, where the roots of any vegetable crop will find the benefit of it when in full growth, and at that depth it will not hamper the future sowing or planting of any crop next spring. Where the surface is composed of rank weeds or any similar rubbish, this should be buried in the bottom trench. In this way the ground can be cleared at any time or in any weather. If it were dry it would be better to burn such rubbish, because the ashes are so valuable for crops of all kinds.

Mushrooms.—Collect the materials—horse-manure, short straw and an eighth part of dry leaves—as fast as possible, throwing them into a heap to ferment steadily. Continue to make up beds as fast as the material is ready. See that beds in bearing do not suffer from the want of water. Instead of sprinkling the surface daily, give a thorough soaking of tepid water to thoroughly wet every portion. In the case of beds partly exhausted of their crops, sprinkle common salt over the surface before watering; this will give a fillip to growth.

The Hardy Fruit Garden.

Black Currants should be finally pruned, cutting away all old, weakly branches where there are young shoots springing up from the base to take their place. These sucker-like growths give finer fruit than the older branches. Some trees neither give good fruit nor make new growth freely. In that case cut the whole of the branches close to the ground, and thus induce the tree to produce stronger growth. Of course, there will be no fruit the first year by such a drastic action, but eventually a much better bush will be formed.

Cuttings of Currants and Gooseberries, 1 foot long, should now be taken, removing the point and taking out the eyes from the base upwards to within four or six at the point. The removal of these eyes under the soil prevents sucker growths and forms a tree with a "leg," which in the case of Red and White Currants and Gooseberries is an advantage. With Black Currants it is better to retain the eyes, as finer fruit is produced on sucker-like growths than on older wood. Put the cuttings firmly in the ground in any position in rows 1 foot wide, allowing 4 inches to 6 inches between the cuttings in the rows. Here they can remain for a year or two and be finally transplanted to their permanent site.

The Flower Garden.

Christmas Roses growing in beds or borders or in a mass on a south border should now have a covering of glass—either hand-lights over single clumps or a frame over a mass—to induce longer flower-stems to push up and also to keep the blossoms clean.

Lawns should have the final weeding. Where moss is troublesome, the surface should be vigorously raked with a sharp iron-toothed rake and have a top-dressing of decayed vegetable refuse, wood-ashes, and old potting soil, to which add a sprinkling of bone-meal. This compost will induce new growth and encourage the finer grasses to make greater progress.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

Plants Under Glass.

Chrysanthemums.—Bush plants are now in full beauty, some, as the Thorpe class, remaining fresh for weeks, and all may be helped to keep their good looks by paying attention to ventilation, especially during damp weather, and giving the plants only enough water at the roots to keep them in condition. Late varieties not yet in flower should be freely ventilated meanwhile, and these also should receive the minimum of water at the roots and be watched for mildew, which yields to slight applications of flowers of sulphur. It will now be necessary to apply heat on the approach of frost, for though the plants may have been safe from any frost previous to this time, it would be unwise to risk them to pass through winter frosts without applied heat.

Carnations.—We have arrived at the worst period of the year for these, and the only way to keep the plants in good health and at the same time produce flowers to meet current demands is to have in the first place plants well provided with forward buds that will open readily with little applied heat, to use heat with caution, and to see that dry, fresh air is always present. The greatest care must be exercised in applying water, some varieties requiring much more than others, the nature and quality of the soil having a very marked effect on the quantity of water required. Usually it is bad policy to apply manure for the next six or seven weeks, and, of course, regular vaporising is essential to keep aphis off the plants.

Young Stock.—If rooted in pots earlier in the season, these may require a shift about this time, but it must be remembered that autumn propagation is of advantage, mainly because it provides plants ready in spring to at once start into vigorous growth. It is of no advantage, but the contrary, to excite growth at this season.

The Hardy Fruit Garden.

Pruning.—It is worth while to have the pruning of all kinds of fruits finished forthwith, saving as it does much worry in spring, when other work has to wait or else the trees get neglected. During the winter, pruning should stand over on account of the cold, and especially now that girls are employed. Nailing is even worse, and nothing is lost by allowing it to stand over till the warmth of February makes this operation possible without it being at the same time an undeserved punishment to the operator.

Planting.—This operation should be finished for the season. Early planting is advisable, but it cannot always be accomplished, and provided the soil is in proper condition—not soaked by rain—I do not know but what Apples, for instance, do just as well planted late as early, the idea that only early planted trees root after planting being incorrect, as observation has frequently proved. The risk is in the soil being unfit to work.

The Fruit Store.—Ventilation is always of advantage for the maturing of winter fruit, but it must now be reduced to the minimum and means taken to keep the temperature at a low level. Should frost set in, it is better to apply heat to keep the temperature level, even though the fruit would be unaffected by the additional cold when no heat is applied, because the raising of the temperature following on a thaw has a very injurious effect, especially on Pears. If possible these should be kept apart from Apples, because the slight damp that is beneficial to these is prejudicial to the former.

The Pleasure Grounds.

Lawns.—These should be thoroughly cleaned for the winter, any weeds here and there that have escaped notice on walks destroyed, and leaves and other dirt which has accumulated recently under isolated shrubs and trees be removed.

Shrubberies.—Some Oaks are very late in defoliating, but all will be leafless by now, and the last cleaning up of shrubberies should be done forthwith. Much labour is involved where the leaves have to be raked together and removed, but it is less labour, as a rule, than digging them into the surfaces, and everyone has to judge for himself the best way to get rid of these. I have occasionally used them to rejuvenate shrubs that have been losing vigour by heaping them round the stems, but this can be done only where the particular shrubs are out of sight. Leaves, however, are valuable aids to growth and worth preserving.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

Rotation or Repetition in Vegetable Growing?

THE recent correspondence on the growing of Onions is my reason for the above title. I have followed such remarks closely, and come to the conclusion that an old and hitherto accepted fundamental principle of agriculture and horticulture is seriously challenged, or rendered most debatable. The above basic rule was that crops should rotate and not be planted continuously on the same piece of ground; and that this practice has been believed and taught by recognised authorities in gardening and farming can be proved by a reference to the standard works used by either profession. Moreover, rotation of cropping is held firmly to by many gardeners of the present day, and was, in pre-war days at any rate, instilled into the minds of the young men under their supervision. But to-day most striking evidence can be adduced proving that almost any vegetable crop, probably every one, can be grown on the same piece of ground for many years in succession with quite satisfactory results. Of course, the soil must be suitably prepared for the repetition of a crop—that point will be conceded—but what about the principle involved? Is rotation of crops necessary? Is it the highest and wisest mode of culture for crops? What have our scientists and other leading vegetable growers to say?

The recent remarks by Mr. E. Beckett, who is an authority no one can dispute, clearly gives weight to the practice of repetition for Onion growing, at any rate. [Also for Potato growing. A piece of land at Aldenham has been cropped regularly with Potatoes for about twenty years. The crops are good, but the ground is made up.—ED.] So does the incident recorded by Mr. E. H. Jenkins, also the records of previous writers concerning the Onion. And if Onions can be grown repeatedly on the same plot, why not other vegetables? They can be and have been so grown.

Mr. R. P. Brotherston, a recognised gardener of repute, states in the *Gardeners' Chronicle* for June 2 of this year that he has grown Brussels Sprouts on the same ground for twenty years. An allotment holder in this district told me he has grown Celery on the same spot for twenty years. In my previous charge I grew culinary Peas, through necessity, on the same piece of ground for several years, with fair results. Other instances can no doubt be cited, but enough has been mentioned to question the thought to be necessity of rotatory cropping, and enough to lend much support to the prevalence of continuous cropping of any given piece of land with a crop which succeeds when so grown. On the other hand, is not a change of ground advised by those in authority as one of the best means of combating and preventing such diseases as clubbing, Onion maggot and Potato disease?

Ampthill Park Gardens. C. T.

PLANTING AN APPLE ORCHARD

STANDARDS INTERPLANTED WITH BUSH TREES.

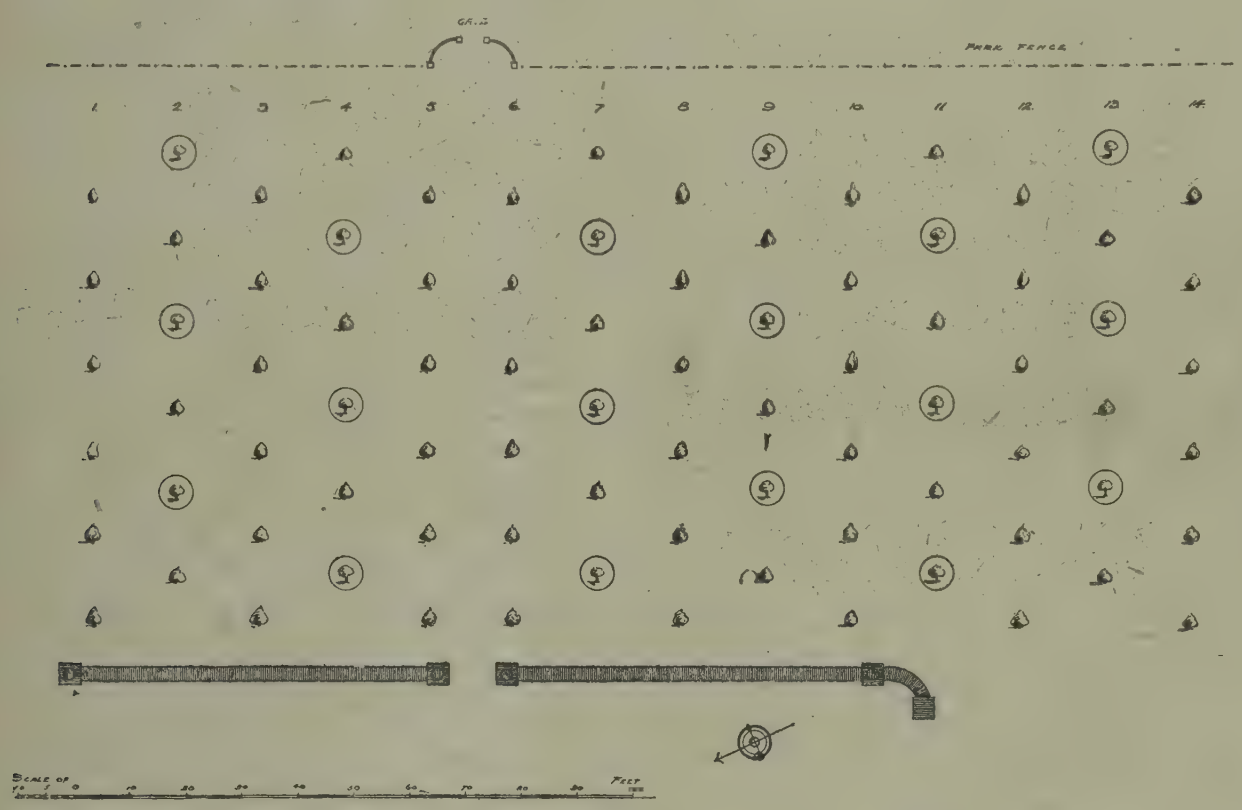
THERE are many ways of training fruit trees. For an orchard nothing is more serviceable than the standard tree—that is, one with a clean stem of about 6 feet. For convenience in gathering fruit and pruning some prefer the half-standard, but the tree which is raised well above the ground receives the maximum amount of sun and air which is essential to heavy crops. Standard trees may bear light crops two or three years after planting, but, speaking generally, it takes about eight years for standards to bear well, after which time they are capable of bearing good crops for many years to come. We have known instances where standard trees of Blenheim Orange have not borne well until twenty years after planting, but this is an exceptionally slow fruiting variety as a standard tree, although it will bear early as a bush tree on the dwarf Paradise stock. Those who plant standards will have the satisfaction of providing for the coming generation, on whom depends the future of our people.

In planting standards we must allow ample room for development, and it will be found that from 25 feet to 30 feet apart is not allowing too much. The trees should be planted so that those of one row alternate with those of the next; each tree will then have the maximum space in which to develop, and all of the trees will be in line from whichever way the plantation is viewed. But while the trees are making growth the space between may be put to good purpose. It may be used for such crops as Potatoes and the Cabbage tribe, or it may be planted with bush fruits, than which nothing is better than the Gooseberry and Raspberry; but a still better plan is to crop the ground with Apples grown as bush or pyramid trees. These trees, budded by the nurseryman on what are known as dwarf Paradise stock, come into bearing very quickly and take up little room, so that while the standards are filling their allotted space the bush trees will be carrying good crops of fruit. No one would plant standard Apples to get a quick return, but by interplanting with bush trees we get fruit in the shortest time' while the standard trees will be coming into full bearing when the bush trees are more or less worn out.

A newly planted orchard on the estate of Major Sir Frederick Carden at Stargroves, near Newbury, shown in the accompanying plan, has been planted on this principle. This orchard—chiefly Apples—was planted in the first fortnight of December, 1913. The standard trees, marked by a circle in the plan, are about 25 feet apart each way.

A few notes on the varieties may be of interest. The first row of standards (No. 2 on plan) contains Allington Pippin, Cox's Orange Pippin and Bramley's Seedling. The two Pippins bore freely this year, and the trees are doing well. The Allington Pippin was loaded and carried a better crop than any of the standard trees in this plantation. Where Cox's Orange Pippin does not do well this variety should be given a trial; not that it compares in flavour, but it has a good constitution and often gives a good return when other varieties fail. Bramley's Seedling has not yet borne fruit, but is making a grand standard and is one of the finest of all cooking Apples.

In the next row of standards we have Newton Wonder, Grenadier and Lord Derby. The first two carried good crops. Newton Wonder, like Bramley's Seedling, is one of the best of late cooking Apples—it is difficult to choose between them, but there is room for both. Grenadier has done well this year in most gardens; it is a good early kitchen Apple. The standards in Row 7 are Bismarck, Worcester Pearmain and Lord Derby, three popular varieties, but none has borne well so far. In Row 9 are Blenheim Orange, Dumelow's Seedling (Wellington) and James Grieve, none yet fruiting. Blenheim Orange is without doubt one of the most desirable of all Apples—as a cooker it is of grand flavour and, what is more important, it needs no sugar; but this is not a Blenheim year, and there are scarcely any on the market. Wellington, too, is a grand late-keeping kitchen Apple, but it likes a warm soil. James Grieve is one of the most promising of early dessert varieties; it is already a great favourite, and when grown as a bush tree it comes into bearing early. In the next row of standards are Blenheim Orange, Bramley's Seedling and Alfriston; while in the last row of standards are Edward VII., Lady Henniker and Rosemary Russet, but of these two rows none is yet bearing well. Edward VII. is regarded as a coming variety by market growers. It is said that its keeping qualities are even better than those of Bramley's Seedling.



PLAN OF A NEWLY-PLANTED ORCHARD ON MAJOR SIR FREDERICK CARDEN'S ESTATE NEAR NEWBURY.

Of the varieties grown as bush trees the following have given the best crops: Wealthy, Langley Pippin, Cox's Orange Pippin, Worcester Pearmain, Grenadier, Allington Pippin (heavily loaded), James Grieve, Christmas Pearmain, Rosemary Russet, Edward VII., Lane's Prince Albert, Lord Derby, Lady Sudeley, Jubilee and Charles Ross. The bush varieties which have so far given only moderate or light crops are: King of Tompkin's County, Ribston Pippin, Coronation, Gascoyne's Seedling, Beauty of Kent, Houblon and Warner's King.

The orchard is situated on high ground and is at present exposed to high winds. The standard trees on the Crab Apple stock are making splendid growth, the object being to establish good trees first and to crop them later. On the other hand, some of the bush trees on dwarfing stocks are not making sufficient growth, despite the fact that the trees have had good dressings of farmyard manure each season from the time of planting; they are inclined to be scrubby and weak—on the aggregate they are cropping splendidly.

The avenue of trees leading from the gate shown in the park fence leads down to a delightful Rose garden. The orchard enters into the garden scheme and forms an important feature, and it reflects considerable credit upon Mr. A. D. Thompson, who designed the orchard and garden, and upon Mr. J. G. Watts, the able gardener who carried out the plan so successfully.

Others who intend to make new plantations may now proceed with the planting, assuming that the land has been drained and otherwise prepared. As it is essential that only good trees should be planted, we would here emphasise the importance of dealing with reliable nurserymen who have a reputation to keep up. So much depends upon the treatment the young trees have received, as, for example, the selection of suitable stocks, budding and transplanting, all of which are best left to the nurseryman. Intending planters should also avoid purchasing trees from sale-rooms, where they may have been kept for days before being sold, and are often worthless. When possible it is a wise plan to visit a nursery and select the trees for planting. When the trees arrive they should be planted with all possible speed; those not planted at once should be heeled in—that is to say, a trench should be dug, the roots laid in, and then covered with a good depth of soil. Needless to add, the roots must on no account be left exposed to wind or frost; and should the ground be frozen when the trees are received they should not be unpacked, but be placed in a cool shed and the roots covered with mats or old sacks. If any large roots have been broken or bruised they should be trimmed with a sharp knife; it is quite as important to use a sharp knife on the roots as on the branches—a clean-cut wound will naturally heal quicker than a jagged one.

H. C.

Liquid Manure for Fruit Trees during Winter.—To some the idea of applying liquid manure to fruit trees in a dormant state will appear a useless proceeding and a waste of time and material. It is not so, however. By thoroughly

soaking the soil in which the roots are growing, the whole becomes charged with stimulative food, which the trees absorb when the roots are active, as is the case from the month of April onwards. This is an easy method of assisting fruit tree growth when more solid manures are not available, and is a way of utilising plant food which would otherwise be wasted. Liquid manure from the stable, cow-house, or piggery, or house sewage, can all be rendered useful and will give good results.—E. M.

Breaking Up Old Pasture

By Edwin Beckett, V.M.H.

IT is gratifying to know that much of this class of land was broken up during the past year with a view to producing more vegetable food, and under the present circumstances it is likely that a great deal more will have to be done during the coming winter in this direction to help in feeding our teeming population. In the majority of cases which have come under my notice, crops did remarkably well generally, in spite of the predictions launched forth by ill-advised folk, who stated that wireworms, leather-jackets, &c., would destroy all efforts made on this class of land.

My views on deep cultivation are well known, and I am as firmly as ever convinced that in forming a vegetable plot, large or small, where it is intended to remain as such for a number of years, deep working and efficient drainage are essential; but the seriousness of the position at the present moment must be taken into consideration and the greatest quantity of produce must be aimed at at the earliest possible moment. In the case of pasture, unquestionably this is generally infested with various kinds of pests injurious to vegetable growth; consequently I advise turning this over and thoroughly cultivating it on the surface for the time being, in order that birds, weather and other influences may do much to eradicate such troubles. When happier times return, one may go in for deeper working and bring the subsoil to the surface.

After the land is turned over, where it is destitute of lime, apply a good dressing. No manure for the first season will be required.

Probably the most important object to keep in view is to see that a proper system of drainage is carried out, either with pipes or open ditches.

Here, where we broke up many acres of land during the past winter, it is very noticeable that where the water could not drain away freely the crops suffered in consequence, and in one case especially, where a large plantation of Brussels Sprouts was made, the plants were anything but satisfactory owing to being waterlogged. I took immediate steps during August and drained between the rows with pipes. The land had been deeply ploughed, cross-ploughed, well harrowed and rolled before planting. At the time of writing, a finer lot of Brussels Sprouts could hardly be found. Other green vegetables, such as Savoys, Cabbage, Kales, Sprouting Broccoli and Cauliflowers, are equally satisfactory.

I am distinctly opposed to breaking up the *best* pasture, where it can possibly be avoided. Rather take in hand unsatisfactory grazing grounds or waste land with the object of bringing it into a better state and thus utilising it to produce vegetable food. One often hears the remark that such land is hopeless for such purposes; but this is a poor and weak argument in the large majority of cases. Common sense and good cultivation should quickly render such land fertile and useful.

THE ORCHARD AT STARGROVES AS SEEN FROM THE ROSE GARDEN.

A COLUMN FOR THE CURIOUS

Tea and War.—One is unable to say how long we have enjoyed the reputation of being a nation of tea-drinkers. With tea at four shillings a pound, and with it having to be doled out by the ounce, as, alas! is the case in certain localities, war comes very near to the average British household. Our shortage is one of the results of the submarine menace; maybe designedly so if the German Emperor has got the same idea in his head that the Emperor of China had in 1842. Robert Fortune, the great plant collector, records in his "Three Years' Wanderings in the Northern Provinces of China" that he was told during his travels that his Celestial Majesty had urged his subjects during the war to prevent all supplies of tea and Rhubarb going to England, as the [illegible] length of time without [illegible] tea enemies sink every pound of tea grown, we have only to remember that [illegible] tea ever came to our shores, and that [illegible] should none ever come again.

A Fodder Plant from the Cotswolds.—Some little time ago a lady residing at Darsley, on the edge of the Cotswold Hills, gave me a plant of Vetch, of which I enclose a specimen. She said that according to local tradition this Vetch was introduced many years ago when the Cotswold plateau was a great wool-growing district. I gave the plant (which is a perennial) a place in my garden, where it has grown and spread vigorously, overpowering its neighbours in the border. The flower is a dull light pink. Can you kindly tell me its name and history? I have no sheep, but the Vetch is greedily eaten by horses. Cows and pigs do not seem to care much for it. In these days of scarcity any source of fodder supply seems worth investigating.—W. Wedderburn.

[The plant sent is Coronilla varia, a European species sometimes met with as a casual on waste ground, always an escape from cultivation. In "Lindley's Vegetable Kingdom" it says that the juice of C. varia is poisonous, with well-marked purgative properties.—Ed.]

Jerusalem Artichokes.—Mr. R. C. Ross, on page 522, wonders "how the Italian 'Girasole' can have become 'Jerusalem,' and whether there is not another explanation of the word's origin." There is little doubt that this etymology, which has gained a wide currency and a place even in standard dictionaries, is a mistaken one and belongs to the "too clever by half" class of etymologies made in someone's study without reference to the word's actual history. In the first place, this plant has never been grown in Italy, or certainly not in any general way as a vegetable. I have dined "all over" Italy without ever meeting it. Secondly, it does not stand alone with this epithet "Jerusalem," which is borne by several other plants; for instance, Phlomis fruticosa, "Jerusalem Sage," and Pulmonaria officinalis, "Jerusalem Cowslips." A very old Hampshire villager, whom I knew when he was close on 100 years of age, always called French Beans "Jerusalem Beans." The word is, I think, really "Jerusalem," as written, and in this use dates as far back as the time of the Crusades, when Jerusalem was the typically foreign place, so that the meaning is "foreign," "imported," "new-fangled." I have read that "Saracen," in more than one corrupted form, is used in the same sense, and no doubt for the same historical reason, in some parts of England. There is a village in (I think) Leicestershire called Sarson, it is said from the settlement there of a company of foreign weavers; and the same explanation has been given, rightly or wrongly, of the name "Sarsen stones" given to the great sandstone boulders which lie on the Wiltshire Downs, foreign to the apparent geology of the district. One of the plants mentioned above, Pulmonaria, is a double instance of the long endurance of old local names. It is really wild in some Hampshire and Dorset woods, where the children call it "Joseph and Mary." The striking characteristic of its blossom is that it shows at the same time bright blue and red-purple flowers. Now 400 years ago in every village church in England—as on the Continent to-day—there stood the image of St. Mary in a blue robe and of St. Joseph in a purple one, and in the absence in those days of illustrated books these were to the common folk the most obvious examples of colour.—G. H. Englehart.

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

ROSE DUCHESS OF NORMANDY (*Normandy*).—This is a fine Rose. It is a sport from Dean Hole and is identical in all save colour, which is a much paler shade, almost a cream.

STANDARD OF ROSE JESSIE NOT FLOWERING.—Why does a Jessie standard Rose tree grown in a bed full of Roses of the same variety come into bud and never bloom when the rest are in flower from June till December? —QUERY. [There is no explanation why this occurs, as it frequently does. We suggest you prune the tree hard and well manure it. Jessie, being a sport from another variety, has possibly again sported, but we have had a similar experience to your own.—ED.]

KITCHEN GARDEN.

YOUNG ONIONS TO PLANT NOW (*G. L.*).—Settle as soon as possible on the size of your bed. Manure the same and dig deeply. Then form rows across or lengthways of the bed to receive the young Onions. To do this stretch a line across the bed, then with the corner of a hoe mark the row to the line, and then plant in the row. The rows should be 1 foot apart and the plants should be planted 9 inches apart in the row. Having formed the number of rows required, you will then know exactly how many plants to order. Rake the surface of your bed smoothly before forming the rows. A short, blunt-pointed stick termed a dibber is the best thing with which to plant. Make a hole large and deep enough to hold the roots and a portion only of the small bulb. Press the soil firmly to the roots. The young plants will then take care of themselves. All the attention they will need afterwards will be to keep them clear of weeds by hoeing. Some of the Onions will be ready to pull in a young state early in May, and through the subsequent months until ripe at the end of August.

FRUIT GARDEN.

GRAPES DECAYING (*H. J. S. H., County Kilkenny*).—The Grapes have been over a week on the way, and in consequence the berries are more or less decayed and fallen away from the bunches, so that it is less easy to diagnose the cause of injury than would have been the case with more perfect specimens. We cannot trace any signs of disease on the Grapes. The cause of their decaying and some falling off is due to the fact that they are quite ripe and unable to stand the cold temperature and damp atmosphere to which they seem to us to have been subjected. Apply more warmth (through hot-water pipes) in order to dry the air, and ventilate freely in fine weather (slightly also in wet and cold weather with heat), the object being to always maintain a fairly dry, warm atmosphere, with a small current of air always in circulation. This will keep off dampness and decay.

FLOWER GARDEN.

PLANTING BULBOUS-ROOTED SUBJECTS (*J. P. L.*).—If dry bulbs are refe red to, Leucojum vernum would have been better planted two months or more ago, a like remark applying to the Belladonna Lily, Camassia and Sternbergia, though it may be possible to get fairly sound roots even now. Babianas may be dealt with in February next—much earlier, say December of the present year, if you intend growing them in pots and affording frame protection; Galtonia, from now to March. All species of Oxalis are ripe for transplanting as soon as growth matures. If you have any particular species in mind, you had better write again, naming it. All, with the exception of Galtonia and Belladonna Lily (which should be planted fully 6 inches deep), should be planted 4 inches deep. In pots, given frame culture, the Watsonia may be flowered from April to June, and, in the open, July or early August.

CHRYSANTHEMUM SPORT (*J.A.*).—We do not know of a pale yellow sport from the once popular white Japanese variety Guy Hamilton. When first introduced the parent variety was grown for exhibition, but in course of time market growers realised that the plant had a value for their especial purpose. After a few years Guy Hamilton became less highly esteemed, and in due course gave way to better and more interesting varieties; consequently your pale yellow sport has not much commercial value. It is, of course, quite interesting, and that is all we regret we can say in its favour. It is really remarkable what a large number of Chrysanthemums sport in the course of a few years, but unless the parent variety is a plant of comparatively recent introduction, or the colour of the sport is unique or especially good, it is seldom regarded with favour by the experts.

TREES AND SHRUBS.

MAGNOLIA WITH ONLY ONE BLOOM IN THIRTY YEARS (*W. J. W.*).—It is difficult, without actually seeing the plant and the conditions under which it is growing, to suggest a reason for your Magnolia failing to flower. As you say that it is perfectly healthy, it may be that it is growing too vigorously to allow of its flowering. In that case it might be advisable to open the ground about the roots and cut a few of the main roots. If that is done, however, be careful to tar the cut ends of the roots, otherwise they will be liable to rot. Some Magnolias, naturally, flower less freely than others, and we know of an instance where two plants of Magnolia grandiflora are growing against the same building, one of the plants flowering well every year, and the other rarely producing a flower.

PLANTING YEWS AND HOLLIES (*W. S. H.*).—If, as you suggest, your soil is fairly good and deep, Yews ought to succeed admirably without manure; but if the soil is on the poor side, add some well-rotted manure, keeping it well away from the roots. If the water is inclined to stand on the clay subsoil, the clay pan must be broken up and an agricultural drain laid, for standing water about the roots of Yews is detrimental. The same remarks apply to Hollies. Trench the ground at once 2 feet deep for both Hollies and Yews, but do not plant either until early May. By planting at that time the bushes will commence to grow again better than if planting were done at the present time. When planting, mix a little leaf-mould with the soil that is placed immediately about the roots. The roots should not be exposed to the air any longer than is absolutely necessary, and it is a good plan if they look at all dry to dip them in a tub of water before planting. As soon as the soil has been filled in, give a good watering, and if the weather is dry, syringe the plants overhead twice a day. It is also a good plan to cut away a few branches here and there to counteract the effect of root injury. A mulch of leaves and decayed manure placed over the soil will add materially towards the re-establishment of the plants. Should the hedge be much exposed to wind, place a stake here and there and run a wire along so that each bush can be secured in position. Be careful to select plants that are bushy to the ground line. They may be up to 4 feet high, and a double row may be formed as suggested.

MISCELLANEOUS.

SUGAR BEET (*M. C. H. and Others*).—We cannot recommend Sugar Beet for jam-making, but the syrup is distinctly useful in taking the place of sugar for bottling fruit. Boil the Beet slowly for five or seven hours, according to the age of the roots, add a little water to allow for evaporation while boiling, keeping the roots covered, carefully strain, and keep the syrup in airtight glass jars until required either this season or next year. See also "Anne Amateur's" instructions on using Sugar Beet with windfall Apples for making a spiced conserve in the issue for September 8, page 377; also November 24, page 505. We cannot advise you how to make starch from Potatoes.

COCOONS ATTACHED TO CATERPILLARS (*J. G.*).—The little cocoons attached to the chrysalides or remains of caterpillars of the white Cabbage butterfly are those of a small ichneumon, which does the gardener enormous service every year by laying its eggs in the caterpillar, which is subsequently destroyed. None of these little chrysalides should on any account be destroyed, for every one has a chance of producing an ichneumon to continue the beneficent work which this group of insects performs for the plant cultivator.

NAMES OF PLANTS.—*A. M. R.*—Tilia petiolaris (Pendent Silver Lime).——*G. Wilde.*—1, Cupressus Lawsoniana erecta viridis; 2, C. L. var. lutea; 3, Cedrus atlantica var. glauca; 4, Cupressus nootkatensis; 5, Juniperus chinensis; 6, Cupressus Lawsoniana Allumi.——*H. J. H.*—1, Escallonia philippiana; 2, Salvia azurea; 3, Leucophytum Browni; 4, Ficus radicans variegata.

NAMES OF FRUIT.—*Mrs. W.*—N, Blenheim Orange; O, Cox's Pomona; P, Ross Nonpareil; Pear, Durondeau.

KEW NOTES

THERE is to be seen in the Himalayan House at present on a tall tree of Davidia involucrata a good crop of its curious-shaped fruits. It stands over the centre path, and the fruits are scattered all over the tree. This plant is the one sent to Kew by Messrs. Vilmorin in 1901. It was obtained as a cutting from the solitary plant that was raised from two consignments of seed that reached Messrs. Vilmorin in 1897–98, and was sent from the borders of China through Père Farges. The Kew plant is now upwards of 40 feet high and growing rapidly. In spring it is usually covered with its curious flowers. Seed of Davidia is very slow in germinating, the plants often not appearing until after being in the ground for two years.

Also this year fruit is to be seen on one plant introduced by Dr. Wilson, the one near King William's Temple having two or three fruits. Pyrus Sorbus (Service Tree) is now rather showy. The foliage is just changing colour, and the leaves are becoming all shades of copper and yellow. The heavy crop of fruit of this is also ripening rapidly. This is sometimes eaten in England. In France people treat it like a Medlar, and when it is bletted use it for dessert. It has also been used for cider in some parts of France, and the wood is valued as being especially good to make the cider presses, as it does not break or split easily.

L. W.

What to Do with Frozen Plants

IT is safe to state that there is not a winter passes by without a number of plants being destroyed by frost in the United Kingdom, pot plants in particular, many of which could undoubtedly be saved did their owners know what to do with them when King Frost holds them in his icy embrace. "Pitch them on the rubbish heap" used to be the general verdict when more or less tender plants became frozen, but during the last decade or two science has come to the aid of the practical man, and informed him that it is not the actual freezing which is fatal so much as the after-treatment.

In order that we may the better understand the treatment of frozen plants, it will be wise to briefly consider what happens when frost reaches them. The liquid contents of the cells become frozen and expand, the cell walls are ruptured, and the plant's tissues in general are disorganised. It is now a fairly well known fact that a plant whose cells contain only a comparatively small amount of water will stand, without injury, several degrees more frost than a similar plant whose cells are turgid with liquid; therefore it is excellent practice, as a preventive of injury by frost, to keep plants as dry as possible without injury during the winter months.

But supposing a plant or plants have been badly frozen, what are we to do to save their lives? The whole answer is given in three words, viz., thaw them slowly. It has been proved over and over again that if a plant is thawed sufficiently slowly, the cells are able to once more absorb their contents that have been displaced by expansion, and the plant is little the worse for the disorganisation that has occurred. If it is a window or room plant that is affected, stand it in a very cool corner where the temperature is only slightly above freezing point, and keep it there until it has thawed.

The occupants of cold frames are often badly frozen, and if a sudden burst of sunshine is allowed to reach them much damage will be done. Keep the mats or other covering over them until a slow or gradual thaw takes place. But it is when the whole of the occupants of the greenhouse, owing to some defect in the heating arrangements, become frozen that the most destruction is likely to occur, and prompt measures must be taken if any of the plants are to be saved. As soon as such a condition is noticed, take care that the heating apparatus does not right itself and thus send up the temperature quickly. Then cover the glass with thick mats, straw or other shading material, in case the sun comes out and causes a sudden thaw. After these precautions have been taken, secure a good supply of very cold water and syringe the plants, pots, staging and glass with it until the whole are drenched. This will cause a very gradual thawing to take place, and many plants will be saved. Leaves will probably be lost, and the plants will need several weeks to recover from the shock; but better this than a total loss.

Half-hardy plants growing in sheltered positions out of doors are often ruined by the removal of the protecting material as soon as a thaw sets in. Such protection should be left on until all signs of frost have gone from the plant under notice. If such a specimen has had no protection before frost occurred, much good might be done by covering it with mats after it is frozen but before it thaws. In concluding, it may be well to emphasise the statement that to safely bring plants through the ordeal of being frozen they must be thawed slowly.

FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

THIS week I deal with the new Poultry Food Orders, and my notes should be filed for future reference.

Home-Grown Grain.—In back numbers of THE GARDEN I dealt fully with the foodstuffs that could be grown for the fowls. Readers should refer to these and plant some of the foodstuffs as the seasons come along. I also gave methods of using and feeding values in the series of articles referred to. It seems that poultry-keepers can sow wheat, barley and other cereals for their fowls if I read aright a letter from the Ministry of Food to the chairman of the Brailes (Warwickshire) Rural District Council. It is to the effect that allotment holders growing wheat, barley and other cereals on not more than half an acre of ground may use the produce for their own domestic purposes, which includes the feeding of poultry and pigs. The produce must not, however, be sold. No objection is raised to a miller grinding the grain thus produced.

The Russian Orloff.—Mrs. C. Colbeck of Boyle Hall, West Ardsley, near Wakefield, sends me a snapshot—reproduced on this page—of one of her Spangled Orloff hens. The Russian Orloff owes much of its popularity in these isles to the activities of this lady breeder, who has also done yeoman service on behalf of the Rhode Island Red and the Sicilian Buttercup. Apart from its utility points of merit, the Orloff is a *quaint* breed, and therefore appeals to those who admire anything out of the ordinary. Its comb resembles a raspberry that has been placed on its base and cut through the top, while the eyebrows are overhanging like those of the Malay. It is a non-sitter and yet a first-class table bird, carrying a plentiful supply of meat on the breast, while it is bred in three colours—White, Spangled, and Mahogany. Some poultry authorities aver that the sporting Russian Count Orloff had a hand in the production of the breed, while others say that it was named after the celebrated Russian Admiral Orloff who strangled Peter III. with his own hands. The Orloff lays a white-shelled egg, and its beard and muffings add still further to the breed's quaintness.

New Poultry Food Orders.—The Food Controller has just issued his long-looked-for poultry food Orders, to be known as the (1) Damaged Grain, Seeds and Pulse (Prices) Order, 1917, and (2) Horse and Poultry Mixtures Order, 1917. The former comes into force on December 17, and the latter from November 22. The former applies chiefly to *imported* grain, and maximum prices have been fixed as under:

Imported feed wheat	72s. per qr. of 480lb.	
Damaged imported wheat, rye, maize, and damaged	65s.	,, ,, ,, 480lb.
Home-grown seeds and pulse	65s.	,, ,, ,, 480lb.
Damaged imported barley ..	55s.	,, ,, ,, 448lb.
,, ,, oats	41s.	,, ,, ,, 336lb.

When any of the above have been treated mechanically by kiln-drying, clipping, splitting, kibbling, &c., a reasonable charge for the same may be added to the maximum prices. On a sale of a mixture containing any of the grains mentioned, the maximum price must be the maximum ruling for that one of the component parts having the lowest maximum price. All storage, transport and other charges incurred on the articles after sale by the importer have to be borne by the buyer. In the case of home produce the buyer has also to bear the cost of freight, haulage, porterage, or carterage, as well as sack hire.

Dealers' Charges.—The maximum prices concern the importer, and we now have to consider the dealer's legitimate charges. The Food Controller has evidently had in mind the corn dealers who with too fine a profit might have declined to stock poultry foodstuffs. The small poultry-keepers would thus have suffered. The dealer who is not the importer may add 2s. per quarter to the maximum prices on large lots, 4s. per quarter where the purchaser buys from the same dealer lots not exceeding 7½ quarters in seven days, and 8s. per quarter where the total for the same period does not amount to half a quarter. The purchases need not be on any particular day so long as they take place in any week of seven days. "Seeds" stand for dari and other seeds except oil seeds, "pulse" represents peas and beans, and "feed" wheat is wheat specially graded as such before importation.

Hints on Buying.—Home-grown grain is already under control, and the poultry-keeper who relies on the local "dealer" for his supplies of imported damaged grain, &c., will be well advised to bear in mind the above paragraph. My readers will do well to consider two pointers: (1) buying in bulk and (2) co-operative buying, *i.e.*, with a view to saving on the food bills. On lots exceeding 7½ quarters in seven days, as I have stated, the dealer can charge only 2s. per quarter above the maximum prices plus *reasonable* charges for carriage, sack hire, &c., so that buying on a large scale in bulk should be adopted. The small poultry-keeper is advised to consult his neighbours Mr. Jones and Mrs. Brown, and buy in bulk co-operatively. Such should not be a difficult matter. In grain mixtures the *dealer* will naturally go heavily on the cheapest ingredients, so that this clause will not bring the relief probably aimed at.

SPANGLED ORLOFF.

A champion hen owned by Mrs. C. Colbeck, Boyle Hall, West Ardsley, near Wakefield. (*See text.*)

Poultry Mixtures.—The Poultry Mixtures Order declares that no mixture shall contain any substance other than grain, seed (dari, &c.), pulse, locust beans and products thereof, and all mixtures must be sold by weight. The Order is a very complicated one, but the poultry-keeper has two items of relief. We shall no longer see stones, grape pips, grit, shell, dust, chaff, raisin stones, orange pips, lemon pips, wood chips and such rubbish in mixtures. It is an advantage to have fixed weights for the various grains, &c., a plan I have supported for many years. Up to now weights have been, in the majority of cases, a pig-in-the-poke affair! By the Order, too, it is made compulsory for grain mixtures to contain at least one ingredient that has been mechanically treated by bruising, kibbling or splitting. The Order affects grain mixtures only, not meal mixtures.

Prices of Mixtures.—By the Order the actual maker of a grain mixture is allowed a profit of 30s. per ton beyond the actual cost to the maker of the ingredients used, delivered to his factory. The dealer is allowed to make the following charges additional to the actual cost to him of the mixture: Where the sale is of 9cwt. or more, 1s. per cwt.; not less than 3cwt. and less than 5cwt., 3s. per cwt.; not less than ½cwt. and less than 3cwt., 4s.; and less than ½cwt., ½d. per lb. Where at the date of this Order a maker carries on a business as a retailer of the mixtures made by him, he may, on direct sales to consumers of quantities not exceeding 6cwt. of grain mixtures, add to the maker's maximum price the dealer's additional charges. Sacks may be charged for at the usual price, but the amount must be repaid on the return of the sacks. Charges in respect of transport and sacks must be shown as separate items on the invoice. I shall deal more fully with these Orders in a later issue, after I have fully digested their complicated contents. Meanwhile "buy in bulk," and remember that the maximum prices are on the basis of net cash for sales over the counter and otherwise for cash within fourteen days of the date of delivery. Interest may be charged on moneys then unpaid at a rate not exceeding 5 per cent. per annum. Carriage is also to be borne by the buyer

PRINCIPLES THAT GOVERN POULTRY HOUSING

(Concluded from October 27 issue.)

I PROMISED in my previous article in this series to give methods by which *dark* houses could be made *light*. Below will be found helpful advice in this direction.

Arranging Ground Lights.—In a house that is used as a combined roost and scratching shed it is highly important that there be a good light on the floor. This is necessary because the birds will need to see the grain when scratching for same in the litter. Now it is quite an easy matter to make the flooring light by arranging what may be termed "ground" lights. The owner must remove the timber from one side of the house at the bottom for, say, 2 feet or so up, and substitute glass. Thick plate glass must be used, and, if necessary, it can be arranged on two sides of the house. Where such a plan is adopted, it is of real benefit to the fowls during the autumn and winter months as the nights draw in. At such times the birds spend most of the twenty-four hours within the house on the perches.

The Evening Meal.—This being so, the importance of the last or evening meal cannot be over-estimated. Yet this is the feed that is hurried by nearly every poultry-keeper. The latter should study the daily elements during the winter, taking care to see that the last feed is not given so late that darkness intervenes before the birds have cleared up all the food. One can understand why it is vitally important that the fowls be sent to bed with full crops if he bears in mind the number of hours the birds have to remain each night on the perches in the winter months. More so, too, when he probes further into the matter and makes allowance for the fact that in cold weather there is a greater strain on the system than in warmer elements; also that on most mornings when they drop from their perches fog, rain, or cold greets them. Ground or "foot" lights, therefore, provide the hens with longer hours for scratching exercise, proving that *dark* structures are at a great disadvantage.

Scratching Exercise.—Realising, then, how essential to successful egg-production scratching exercise is, it is well worth while to arrange foot lights to structures that have the serious drawback of being dark interiorly. To enable the fowls to get the most from the grain, the litter should be raked towards the plate glass and the grain scattered therein. The birds will then scratch away from the light. If fowls are watched at feeding-time, it will be noticed how they always face the light when scratching, and keep their tails in the background. Where it is desired to admit Old Sol, "roof" lights can be brought into play, or ordinary glass panes can be placed midway up one side of the house, where they will intercept the sun's rays. Do not get the impression that a *glass* house is desired, as such a structure would be icy cold in the winter. Remember, too, that the thicker the glass used, the warmer the interior of the house when compared with the thin kind.

Roof Lights.—If it should happen that the sun does not shine sufficiently into the roost, run, or scratching shed, this drawback can be rectified by the adoption of roof lights. Here again I do not recommend a *glass* roof. In a small house one plate-glass "light" will be sufficient, measuring, say, 2 feet wide by 3 feet deep. In a large structure holding fifty birds three can be recommended, one near each end and a third in the centre. These sheets of plate glass must be fitted near the highest point of the house, and in such a way that the sun's rays can penetrate into the interior of the structure, paying its attention particularly to the corners furthest from the front of the erection. Having cut out sufficient timber (*i.e.*, in an existing building), carefully cover the aperture with a sheet of thick plate glass. If the latter is raised higher than the roof itself, precautions must be taken to see that rain-water cannot settle there, which is not a difficult matter to arrange.

PEDIGREE WHITE LEGHORNS.

Each hen has a record of over 250 eggs in her pullet year, while the cockerel's dam laid 276 eggs in twelve months. Owned by Mr. Edward Cam, Glen Poultry Farm, Hoghton, near Preston.

On Hoods.—In open-fronted structures I am always in favour of the use of hoods at the top to prevent rain from beating inside. Where such hoods are adopted, the material brought into play varies according to the owner's taste and purse. Some poultry-keepers use timber, others canvas, and not a few muslin. Wood has its great disadvantages in that it makes the interior of the structure dark. It matters little whether a fixed or a movable hood is selected, and in the designs I have a liking for I prefer the former. But glass is the best material to use, although for the ends wood can be utilised if desired to check "side" winds. During snowy weather, however, the snow must be frequently removed from the glass hood to avoid breakages due to the weight. A hood is excellent as a shield for all structures that have open fronts or wire-covered apertures that need to be controlled.

Keep Litter Dry.—Where litter is used, it is imperative to keep it dry. In the first place, it will last longer when so kept; and, secondly, no harm will come from the droppings, which will dry up and can be easily sieved from the litter once a month. If the litter is allowed to get wet, the ammonia rises from the droppings, and this is harmful to the fowls. It is surprising the length of time litter will remain in good condition if properly cared for. The main thing is to keep it comparatively dry; a little wet will not hurt, but the litter must not get a thorough soaking. Then, the deeper the litter, the better it will keep in condition. It should be from 6 inches to 9 inches deep if possible, and peat-moss is to be strongly recommended. If the depth is not as much as that quoted above, it is wise to have a bottom layer of dry, fine sand, which when scratched through the litter will clean the latter. Occasionally pass the litter through a sieve and remove all the lumps therein. Once a month, too, lightly sprinkle the litter with a weak Izal disinfectant wash to freshen it, and when the used material is removed, well scrub the flooring (if wood) with Izal bar soap and Izal disinfectant wash prior to replenishing.

The Dust-Bath.—In every run, scratching shed, or intensive structure, accommodation should be found for a dust-bath. An ordinary box will answer the purpose, and it should be fitted with legs so as to be off the ground. Floor space will thereby be saved for the birds. A deep box is advisable, and the dusting material—dry ashes, &c.—should half fill it. Near the bottom of the receptacle a fairly wide step-board should be fixed, on to which the birds can fly prior to entering the dust-bath. The dusting material should be regularly replenished, while it is wise to sprinkle thereon a little grit and shell and some Izal disinfectant powder. The dust-bath should be placed in a sunny spot, and if it is made portable it can be moved as desired.

Busybodies.—The busy-bodied hen is always the best egg-producer, a point poultry-keepers should carefully bear in mind. It is useless to provide litter in the house or scratching shed unless it is made full use of. Many there are who bed down the flooring with material and yet put it to waste by scattering the grain to the fowls in the grass enclosure. All grain should be well raked into the litter, the fowls being compelled to scratch for every particle. There are plenty, too, who allow the litter to get into such a condition that the fowls refuse to turn it over. The fowls are given a surfeit of grain at each meal-time, with the result that the litter is full of grain. Where this is the case, the fowls soon lose their appetites and the desire to engage in scratching exercise. This can easily be prevented if the birds are given at each meal-time only sufficient that they will clear up at once. Successful egg-results depend to a degree upon correct feeding of the layers, and where the appetites of the latter are kept keen the health of the stock will be maintained.

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31, Park Road, Coalville, Leicester, 16th Nov., 1917.
ill you forward another cwt. of your No. 1 Ideal Meal? My fowls on your food laid without a break for nine months down to the first k in October and are now through moult and will be in full lay again rtly.—W. STACEY.

Ardsley Vicarage, Barnsley, 16th Nov., 1917.
y fowls have improved wonderfully in appearance since feeding n on your Ideal Meal.—Rev. J. P.

15, Princes Road, off Woodfield Road, Altrincham, 17th Nov., 1917.
enclose further order for 1 cwt. of your No. 1 Ideal Meal for myself a bag for a friend. **I have recommended your food to ious poultry keeping friends, so feel sure you will be ting orders from them.**—ED. PARKER.

84, London Road, Clapton, E., 17th Nov. 1917.
ease forward another cwt. of your **Complete** Ideal Meal. Since ve been without your Meal my egg yield has not been at all satisory. With your food I am expecting great results from some nising pullets.—WALTER H. P.

The Green, Nettleham, Lincoln, 17th Nov., 1917.
y fowls, fed on your Ideal Meal, are in good health and have started y very nicely, so please send another cwt.—J. NEEDHAM.

Fitzroy, Norton Fitzwarren, Taunton, 19th Nov., 1917.
enclose cheque for another cwt. of your No. 1 Ideal Meal which is **ellent** and I have recommended it to several of my friends.—A. W. T.

34, Victoria Street, Hucknall Torkard, Notts, 19th Nov., 1917.
ill you send me a bag of your Ideal Meal for a friend of mine, for n he saw my pullets he was surprised at their condition, and thought ould like to try a bag.—W. CLIFTON.

Inglemere, Waterlooville, Hants, 19th Nov., 1917
ease forward another cwt. of your Ideal Meal No. 1. I consider this st excellent food for the mash and we have been using it throughout year, and I have always been well ahead of the neighbourhood with s, for which I thank your Ideal Meal.—M. ROWLAND.

Saumarez, Sunninghill, Berks, 20th Nov., 1917.
r. A. G. L——will be obliged if William Cook & Sons will send her three cwts. of their Complete Ideal Meal, as his birds have exceedingly well since he started to use this.

131, St. Stephen's Road, Hounslow, 19th Nov., 1917.
have never had my fowls moult so easily or lay so well as since I e fed on your Ideal meal, and enclose order for another cwt. and a n of your Poultry Powder.—G. E. PLUMBRIDGE.

130, Strathville Road, Earlsfield, 18th Nov., 1917.
m sending you my **third** order for **Complete** Ideal Meal, and I completely satisfied with it. Fowls lay well and moult easily on W. HICKLING.

30, St. James Park, Tunbridge Wells, 17th Nov., 1917.
ndly send me another sack of your Ideal Meal Complete, **the e as supplied several times, as I am very pleased with ults obtained.**—J. B. P.

Illey Brook Farm, Illey, Halesowen, 16th Nov., 1917.
y fowls have laid so well on your Ideal Meal that I do not like to be out it. I enclose 23/- for 1 cwt. No. 1 (Original), and a 2/- tin of try Powder.—E. TIBBETS.

100, St. Margaret's Grove, East Twickenham, 16th Nov., 1917.
ving had the best of results from your Ideal Meal, I enclose Order nother cwt.—W. H. STONE.

27, Kirkgate, Wakefield, 16th Nov., 1917.
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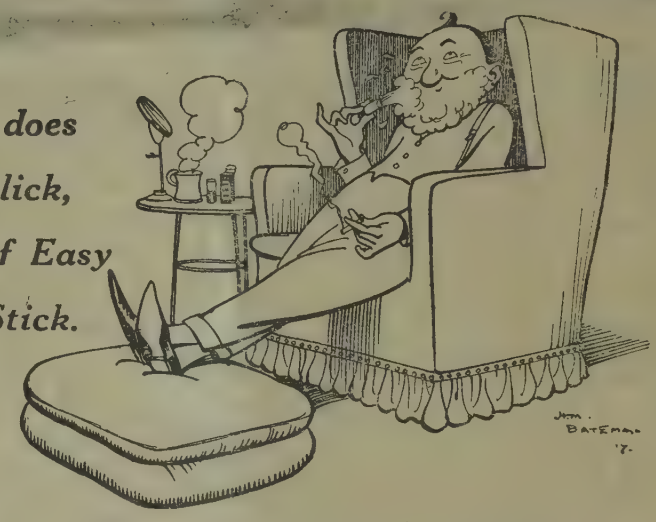

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HOME GROWN HARICOTS.

THE GARDEN

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FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

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No. 2404.—Vol. LXXXI.]

THE GARDEN.

NOTES OF THE WEEK

[December 15, 1917.

THE great efforts made by the people of this country to increase the supply of home-grown food is worthy of every encouragement, and affords a solution of the serious problem of food shortage with which we are faced to-day. The problem is not entirely due to the war. In 1908 Sir William Crookes foretold the world shortage and said that we should soon be in deadly peril for lack of food. The statement that was then regarded as unduly exaggerated is now the source of grave attention. However soon this awful war may come to an end, it is certain that the shortage of food will be felt for years. Instead of growing 30 per cent. of our food—or whatever low figure it may be—these islands must be made to yield 80 per cent. to 90 per cent. of the food required. The Board of Education, realising that on the school-children of to-day depends the future prosperity of our people, are offering greater facilities for instruction in gardening to teachers and pupils. School teachers will attend special courses in the science and practice of gardening, and efforts will be made to start new school gardens and to bring existing gardens to a much higher standard of perfection.

The Southern Federation of Allotment Holders.—During the past month no fewer than 3,000 allotment holders connected with some thirty societies have joined this Federation, thus automatically becoming members of the National Union of Allotment Holders, which is going to formulate the national demands of allotment cultivators. Societies under the Federation and others are passing a resolution requesting the extension of tenancy of allotments under the Cultivation of Lands Order till such time as the land is required either for immediate building or other urgent public purposes, and urging the necessity of providing dispossessed tenants with other suitable ground. Mr. Gerald W. Butcher, Hon. Organiser of the Federation, 8, Buckingham Street, Strand, W.C.2, urges upon all unaffiliated societies the necessity of at once linking up with the great national movement in order that the strongest support may be obtained to represent the interests of the allotmentees. Numerous meetings which have been held, particularly those at Tunbridge Wells, Colchester, Eastleigh, Addlestone, Sunbury and Leytonstone, reflect the enthusiasm of the people for the continuance of their work on the land.

The Horticultural Club.—The Hotel Windsor having been commandeered by the Government, arrangements have now been made for members of the Horticultural Club to share the rooms of the Farmers' Club at 2, Whitehall Court, Westminster. Whitehall Court is situated immediately at the rear of the War Office.

Jerusalem Artichokes.—We had fondly supposed the name of this useful and accommodating vegetable to be a corruption of the Italian Girasole articocco, or Sunflower Artichoke, but in our last issue the Rev. G. H. Engleheart offers another explanation of the word's origin, viz., that Jersualem was the typically foreign place to country folk dating back to the time of the Crusades. In support of this statement we call to mind many instances in which the word "Jerusalem" in the West Country is used to denote something foreign or new-fangled. Only last week we heard a sailor's story of a Jerusalem cuckoo which turned out to be no bird at all, but a kitten. In a like manner the so-called Jerusalem Artichoke is no Artichoke, but, as John Abercrombie puts it, "the fleshy tubers bear some resemblance to a Potato and taste somewhat like the bottom of an Artichoke; hence probably the name originated, as they bear not the least resemblance in growth to an Artichoke." We arrive at the conclusion that the Jerusalem Artichoke is so named, because it is not an Artichoke and has nothing to do with Jerusalem. But where does it come from? A very curious slip occurs in Nicholson's "Dictionary of Gardening." Under "Jerusalem Artichoke"

A DISH OF JERUSALEM ARTICHOKES.

it is referred to as a native of Brazil, but as Helianthus tuberosus the reference runs: "Upper Canada and United States, 1617. This was cultivated by the aborigines, and the tubers developed. It is certainly not South American, as stated in so many books." Whatever place name might have been given to this plant, it seems doubtful if we should ever have it right. The fact remains that it is a good-natured crop. It is no trouble to grow and never fails. From a nutritive point of view it is about equal to the Potato, and when properly cooked—but that is another subject.

Potato-Onions.—A correspondent writes to say that he thinks many of our readers would be grateful for a note on the Potato-Onion. This Onion had practically gone out of cultivation until the recent boom in vegetable growing; now it has again been brought into public notice. Forty or fifty years ago a few rows of it used to be grown in most gardens. The Onion is really useful only for its earliness, being ripe and fit to pull at the end of June. There is sometimes a scarcity of Onions at that time onwards until the spring-sown ones are ripe in August and September. In regard to cultivation, there is little or no difference between its culture and that of the Shallots, excepting that it is usually planted in early winter instead of in February, as the latter generally is. The rule as to its planting and harvesting used to be, "Plant on the shortest day and gather in on the longest." Plant in rows 12 inches apart, the single bulbs or Onions in the row being 6 inches asunder and planted 2 inches deep. It will succeed very well when planted in ordinary well-cultivated garden soil, but prefers a fairly light rather than a heavy soil, and likes a sunny position. The young Onions are produced in clusters at the base of the parent plants in spring. Some earth them up with soil, as is common with the Potato (hence their name), but better results are obtained by allowing them to remain on the surface of the soil exposed to the weather until they are ripe.

Polyantha Roses in Autumn.—A little collection of the older Dwarf Polyanthas has again provided a very pleasing show of late blooms. During the second half of October and throughout November Leonie Lamesch has been covered with its attractive coppery gold, carmine-tipped flowers. Jessie, most faithful and perpetual of all, has been equally good, thrusting up large trusses of cherry red. A very dainty semi-double is Canarienvogel, its widespread blooms of delicatest yellow standing the roughest weather, despite their fragile appearance. Erna Teschendorff, though a lovely crimson, is hardly to be relied upon for this season, but, like Mrs. Cutbush, Baby Dorothy, and Aennchen Müller, it is admirable in the earlier autumn. A top-dressing of manure in September is very helpful in promoting these late blooms, and, though the bushes have such a prolonged period of flowering, spring and summer invariably find them as prolific as ever.

Pot-Pourri from an Edith Cavell Home Garden.—We have pleasure in announcing that anyone wishing to help an Edith Cavell Home of Rest for Nurses can do so by purchasing, at 10s. per pound, pot-pourri made from an 1804 recipe. Any quantity will be sent on receipt of remittance and postage to the Hon. Mrs. Corbet, Raven House, Edith Cavell Home, Adderley, Market Drayton.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

THE COMMON BARBERRY.

I ENCLOSE a specimen of berries from a large shrub in my garden. In summer it is covered with a sweet-smelling yellow blossom. I shall be glad to know if this is a Barberry, and if the berries are good for eating or not.—(Mrs.) MAY E. RAPHAEL.

[The fruits are those of the common Barberry. In company with other fruit-bearing shrubs the common Barberry is this year quite unusually loaded with its coral-like berries. In some of the Alpine regions where it abounds it is a wonderful sight, the masses of red fruit reddening the whole bush and showing up all the more conspicuously on the groundwork of grey rock. The berries should not be wasted, for they make delicious jam and jelly, and also a charming dessert dish if the berried racemes are tied with thread three or four together in a little bouquet, kept whole, and treated in the usual way for making jam. As a hedge plant Berberis vulgaris is absolutely impenetrable, especially if the shrubs are allowed to grow for a few years and then cut to the ground, when the growth from the stools comes up thicker and more vigorous than ever. The only drawback to the more general planting of this beautiful fruiting shrub is that it is commonly attacked by a red rust (Æcidium Berberidis) which has been proved to be an alternate form of Wheat disease, Puccinia graminis. If on the occurrence of the red rust the portions bearing it are removed and burnt, no harm can come to the Wheat; but if this precaution is not observed, it is better that it should not be planted in the neighbourhood of farm land.—ED.]

DWARF BERBERIS THUNBERGII.

WHAT promises to be an important garden shrub novelty is to be distributed among traders of the United States of America this autumn and to the general public a year later. It originated with the Elm City Nursery Company, New Haven, among a bed of several thousand Berberis seedlings some fifteen years ago. The peculiar habit attracted notice, and throughout the period stated it has kept its character. With typical American ingenuity the raisers have given it the name of Box Barberry, because its dwarf habit and style of growth make it highly desirable for edging purposes. The extreme height, I believe, is about a foot, the habit bushy and compact, with foliage very small, dark and glossy. Presumably it will fruit, but its chief claim is its compact growth. It is very readily propagated from hard or soft cuttings.—T. A. W.

GOOSEBERRIES.

MR. BUNYARD'S pin prick drew "Anne Amateur's" attention, but did not "pique" her, for (this really *ought* to be printed in red ink !), for once, she agrees with a *professional!* Large Gooseberries, first-class in flavour, are "the exception that proves the rule" as regards garden produce, generally speaking. (Note *en passant* Mr. Ponting's large Potatoes, and *he's* another "amateur"!) I have grown twelve of the Gooseberries named by Mr. Bunyard, and take exception only to May Duke. Though large and early, it cropped too sparsely for my cottage garden. I find Keepsake the best for early gathering, and agree *again* with Mr. Bunyard that Gooseberries are best bottled before they attain full size. My youthful experience of "Goosegogs" was more fortunate than that of Mr. Bunyard, for in our old Surbiton garden there were Gooseberries galore—yellow, red, green and white—enough and to spare for all the little London cousins who came and feasted there in the summer holidays. I think now that possibly Mr. Wilberforce Bryant's bees, which often swarmed in our garden, were partly responsible for its fruitfulness; for the Gooseberries here certainly have yielded better since I started bee-keeping.—ANNE AMATEUR.

BRUSSELS SPROUTS A FOOT APART.

I HAVE noticed in the columns of THE GARDEN, also in those of many other papers, complaints

CORAL-LIKE FRUITS OF COMMON BARBERRY.

of the weak growth of Brussels Sprouts. This year I was very pressed for space, and as a result I planted my Brussels Sprouts only about a foot apart. I did not expect good results, but to my surprise they have turned out exceptionally well. The Sprouts are as big as a small hen's egg, firm, and there are a great number on the plants, which stand about 3 feet high. I got my plants from a friend's seed-bed, and his did better, if anything. The sort grown was Scrymger's Giant. So far I have not seen one bad crop of Brussels Sprouts in the whole village. Although this year we have had an exceptionally heavy rainfall, all the crops have turned out well, except Onions, which failed badly in the whole district.—JOSEPH BRIDGE, *St. Benets, Buckfast, Devon.*

BIRDS: FRIENDS AND FOES.

YOUR correspondent A. T. Johnson, writing in THE GARDEN, November 24, page 503, on the scarcity of bird life, pleads for the protection, among others, of tits. I am sorry my experience of the blue tit or tomtit is such that I consider it the most destructive bird that a gardener has to contend with. Anyone who has grown Sweet Peas, especially for exhibition, has seen the greater part of his blooms spoilt by these little pests, and I have never known any successful method of frightening them away. Then when Apples and Pears are beginning to ripen, say, from August onwards, these pretty creatures flit from fruit to fruit and just peck a small hole the size of a buckshot; then along comes the wasp and you find 50 per cent. of your best fruits useless. This year I lost about thirty Pitmaston Duchess Pears, each averaging 1lb., although protected with muslin bags. I carefully watched the tits, and it was wonderful how quickly they could peck a hole through strong muslin. In my opinion the common sparrow is quite harmless in a garden when compared with the tits. I quite agree that starlings, hedge-sparrows, robins and most of the soft-billed birds should be protected. I was very sorry this year to miss a pair of goldfinches. For six years a pair have nested in some bush Apple trees on a path side in the centre of the garden, and have always reared their young, some years two broods, but only one pair ever returned; this year none came to nest. I often wondered what became of the others, and think it really a crime that such pretty, harmless things should be destroyed, because they are so showy. All the same, I hold the opinion that when a bird destroys crops greatly in excess of the good it does, it should be destroyed. I am regularly visited by both the bullfinch and the hawfinch. They are very pretty, no doubt, but I do not profess to give them any quarter. It would be very interesting to have the opinions of other readers of THE GARDEN on which birds they consider are friends and which are foes. The blackbird and the thrush are greatly overrated as gardeners' friends, I consider. —H. R.

DISAPPOINTMENT CAUSED BY GRAFTED SHRUBS.

MR. ROBINSON'S letter in THE GARDEN of December 1 is most encouraging to those of your readers who, like myself, have failed to grow the Clematis satisfactorily. But where are plants to be procured that have been raised by layering or from cuttings? My own experience entirely bears out Mr. Robinson's views. The only surviving Clematis of the many that I have planted with every care and in various positions are two seedlings given me by a friend who had raised them. These are on a wall facing due south. They flower freely every year and show no signs of disease. I have tried to get more seedlings from the nurserymen, but have failed to do so, though I was content to take those which they considered were not up to the best standard. I can give two examples from my own garden of the disappointment caused by grafted shrubs. Some years ago I planted in my small wild garden a specimen of Prunus triloba. In a year or two the ground for yards around was taken possession of by the suckers of the Plum on which it was grafted, so that I was obliged to dig up the tree to avoid further trouble. Twice I have planted Robinia hispida, and on each occasion it has died back to the graft, and I have been left with a fine specimen of the stock (probably Robinia Pseudacacia) for which I have no possible use.—NORMAN RUSHWORTH.

SOME FALLACIES REGARDING THE CLEMATIS.

IN criticising my article in THE GARDEN of November 17, Mr. Robinson has again in his article of December 1 sought to gain weight to his own opinion by throwing doubt as to my qualification to express an opinion upon the subject at issue. He says: "The reader will please note first that Mr. Jackman is not a grower of the plants in any permanent, established way, but a propagator, and therefore not so well able to judge of effects as those who grow plants to last." The statement is too ridiculous to be taken seriously. If I am not a grower, how does he explain the fact that my firm has exhibited large established specimen Clematises for years at the Temple, Chelsea and Holland Park Shows, also that for a number of years we have grown, and advertised in our catalogues, extra strong established plants grown in the open ground, which have been seen and admired by many visitors to our nurseries? Are not we the raisers of many of the hybrids in commerce at the present time, and are continually introducing new varieties? If there is a question as to anyone being qualified to express an opinion on the effect of the stock upon the plant with regard to the "die-back," is Mr. Robinson the person to look to? We have it on his own authority that for years past, whenever he receives a consignment of Clematises from a nursery—mostly French, I understand—he immediately has the balls of soil washed away and the roots of the stock removed, as he "will not have the handsome plants on any but their natural roots." Such being the case, how has he had the opportunity of studying, and experimenting on, the effect of the roots of the stock on established plants in connection with the cause of the "die-back"? Mr. Robinson gives his case away completely, as it is evident his theory is simply a matter of conjecture, with no evidence to prove his case, or to rebut the statements I made in my lecture, and the direct questions I put to him in my article of November 17. To none of the latter has he given a definite reply, nor has he brought forward corroborative evidence to the contrary, but evades them with the remarks: "I have no die-backs; they do not arise in plants naturally grown"; "I do not admit it"; "The question is not clear"; "They do not with me, and there may be other minor causes"; "Why use it?" He has admitted, however, losing some plants imported from France—even after his skilful surgery—and growing the plants on their natural roots, which I presume, of course, he attributes to "other minor causes." I have already stated that it is not my intention to continue a lengthy correspondence on this subject, as I have fully dealt with it in my lecture, and must decline to take any further part in it until Mr. Robinson has given direct answers, with proofs to substantiate his case, to the five questions I put to him. Until he has done that he has neither "freed" the Clematis nor himself. Failing these, I leave the readers of your valuable paper to draw their own conclusions as to whose theory is right.—A. G. JACKMAN, *Woking Nurseries, Surrey.*

GROWING PRIZE POTATOES.

THIS is so carefully and clearly described by Mr. Ponting as to become valuable to the reader. But in asking the question, "Does it pay?" would it not be better to take a broader view? Things ceasing to pay commercially [illegible] on another value. Although his food supply is no greater, what about the impetus [illegible] a nobler manner of growth? The stems [illegible] responded to the help given. Surely a [illegible] such help for three seasons would [illegible] to grow strong, upright stems of themselves. Of course, this necessitates either keeping the seed in his own hands or co-operating with other growers; but a good work has been started, and it would be a pity for it to be lost. In fact, the treatment given is exactly that advocated recently by "Hurstcot" in "The Spirituality of Plants."—L. A. LOUDEN.

IS IT WORTH WHILE?

MR. CLARENCE PONTING might have asked, "Is it worth while growing prize vegetables of any kind?" Those who have made a practice of exhibiting will usually admit that the returns do not balance the cost. Of course, the professional gardener, who does not bear the expense, is not concerned about the cost of growing prize stuff. He may perhaps argue that it is merely a form of sport, and that the growing of such is all more or less lumped in the general routine of operations. We do, however, know that the growing of fine examples means a great deal of extra work, especially if the soil has to be made up, and labour costs money, without counting the cost of extra manures, &c. The allotment holder or amateur gardener who desires to exhibit usually does his best in the way of culture, and at show-time makes his choice, which invariably means that he has to lift a great deal more stock to get the necessary vegetables than he would otherwise do. I have seen cottagers lifting scores of roots of Potatoes in order to find the needful half-dozen perfect tubers, thereby reducing the crop that might have been, had the roots been allowed to develop. Exhibiting for the ordinary individual is not profitable, but it affords pleasure, and is certainly preferable to backing horses. Personally, I have done a bit of exhibiting, and enjoyed it, but I never grew stock wholly and solely for prize winning. That is a millionaire's or—shall I say?—a "mug's" game. I daresay I am safe in hazarding that where one perfect example of vegetable, fruit or flower is shown, ten accorded the same treatment of culture have been left at home. When it is a question of weight or size alone, obviously such can only be obtained by giving room. To get big fruit one must thin. Bigness in everything is only obtained by reducing numbers. Big Sweet Peas, big Beans, big Marrows and all other items are secured by restricting the crop, and when it comes to heavy Potato roots, as Mr. Ponting shows, the crop on a given area is no more—less in his case—than can be obtained by ordinary cultivation.—T. A. W.

POTATO GREAT SCOT.

YOU have recently had some interesting notes on Potatoes, so I am sending you a few lines about Great Scot. It has been most carefully under my observation during this season, and has proved very satisfactory. Great Scot, so it appears to me, does better on freshly turned grass land than on cultivated ground. A piece of land here, less than half a rod, was turned over and a few pieces of Great Scot seed tubers put in, with the result that we got nearly a navvy barrowful of Potatoes, and some of fine size, too. It has done extremely well on another piece of grass land turned over for the first time this year. At the other side of Sheffield we grew for a Potato competition. About a hundred competitors planted it, and gave it many different cultural methods. It proved very satisfactory and gave a heavy crop. I think we want to hear about a few more Potatoes which, like Great Scot, are disease resisters, good cookers and heavy croppers. I am on the look-out for a good Potato to give the competitors for the competition next year, so perhaps some readers can suggest one.—E. T. ELLIS, *Weetwood, Ecclesall, Sheffield.*

SPREADING POTATO DISEASE.

A GOOD deal of disease is spread by carelessly leaving infected tubers or haulm about the garden or field. I remember last year a neighbour of mine, who had a large area under Potatoes starting to dig them quite early. The weather was fine, and instead of removing the tubers straightway from the plot, he put them in heaps and covered them with haulm. During the night after the third day a heavy rain set in, which lasted off and on for about three days. About this time the heaps were examined, and it was found that most of the largest tubers—quite 50 per cent. of the whole—were badly attacked by summer blight. The tubers in the heap not showing signs of disease were those at the bottom nearest to the ground. The others were so badly infected that cottagers, to whom the Potatoes were offered gratis, would not use them for their pigs. What really happened in the end was that the diseased tubers were allowed to remain on the ground for a long time, and when fairly rotten were taken away and dug into the ground among fruit trees. The decaying haulm was not burnt. I was, to say the least, very much astonished at all this, because my neighbour was a man who ought to have known better.—L. M. MARSHALL.

CLUBBING IN BRASSICAS.

THE remarks of Dr. Potts in the Journal of the Royal Horticultural Society, Vol. XLII., relative to the experiments which show that the spores of Plasmodiophora are either killed or rendered inoperative below a depth of 4 inches to 5 inches, opens up a new line of attack. It would only appear necessary to well lime the soil and then insert the roots of the seedlings below or at this depth. That there is evidently some truth in this statement I am able to prove from a case in point in my own garden. Within 2 feet from some vilely "clubbed" Brussels Sprout plants I planted a row of Cottagers' Kale. The plants were somewhat "leggy" when taken from the seed-bed. In order to do away with this long stalk I inserted the plants with a dibble (an instrument I only use for obtaining straight Carrots, Beets and Parsnips) quite 6 inches beneath the surface of the ground. The dibble was used to get the work done quickly, as I did not expect to obtain any result from them, but put them in on the off chance. They were given every opportunity of contracting the disease. The soil was dry, and no water was given to help them to root. The weather remained dry for a week after planting, during which time the plants reposed in a flaccid condition, and never looked like taking hold. As I write, this row is the finest lot of "greens" which I have yet had on this land. I had intended to write a paragraph on the plants, the success of which I attribute to planting with the dibble, thinking that the hard hole made by this instrument had prevented the spores from pushing their way to the roots of the plants. I really think that Dr. Potts has hit the mark, and that this deep planting defeated the anbury disease. I usually plant my Brassicas by means of a trowel from a seed-bed with a nice ball of soil attached to the roots, and plant them almost on the surface. At the same time, I have noticed that the Kales do not seem so liable to anbury attacks as do other members of the Brassica tribe.—CLARENCE PONTING.

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LITTLE-KNOWN APPLES: DESCRIPTIONS

THE GOLDEN PIPPIN APPLES.

MR. E. A. BUNYARD records the loss of many seedlings of the Golden Pippin. I respectfully suggest this loss recoils on the heads of the Royal Horticultural Society's officials, inasmuch as no one has the work in hand of collecting and making notes of little-known and unknown varieties of Apples still existing in very old orchards. There are such Apples in out-of-the-way orchards and meadows, in Herefordshire, for instance; but the old trees are fast dying out, and any work of rescuing should be put in hand at once and carried out systematically over several years on account of irregular cropping. I have nowhere else seen the Apple called London Pearmain outside Herefordshire, though, of course, it may have a synonym. Some of the older folk of that county used to call one variety Priory Wood Pippin. It much resembled the Summer Golden Pippin, but lacked the colour of this sort. Franklins and Dobbs' Kernel seem names I remember when in that county. The Apple London Pearmain referred to was both of good appearance and fine flavour. Was not the variety Byford Wonder an Apple rescued or found in that county some years back?

C. TURNER.

DESCRIPTIONS: A WAIL.

A THING that has worried me for some time is the kind of description of plants and trees which catalogues contain. I thought it was merely my ignorance which was at fault, but since reading Mr. Bunyard's remark in the issue of October 13 under the head of "Allington Pippin," I have felt emboldened to lift my voice and complain. The remark is as follows: "brisk or sprightly (which being interpreted means a little acid)."

On one front a battle has been raging over the question of correctly describing the colours of flowers, but I wish to invite the attention of the professional catalogue maker to a state of things which is exceedingly upsetting to the amateur, and which by peaceful persuasion could probably be settled satisfactorily. Most descriptive notes give one the impression that all Apples, for instance, are practically alike; whereas my experience points to there being at least three kinds differing in flavour alone, and these are the "sweet," the "sour" and the "beastly sour." I feel that even this is not adequate, somehow, and certainly does not express my feelings completely when I attempt to devour an Apple of one of the latter varieties.

But I seriously think that the present arrangement is capable of improvement. Try to imagine the state of mind of the unfortunate person who is confronted with such a "description" as "A free-growing variety, medium size red fruit, subacid, bears well in average soils, somewhat similar to Hennes' Lemon Pippin, only more so." The man who writes thus may have a clear idea of what he means; but what about the innocent enquirer after knowledge? He does not know what a "subacid" flavour is, nor even what is an average soil. Again, is a free-growing variety one that will overshadow the entire garden, smother the house, and make it difficult to open the back door without an axe; or is one to expect an abundance of fruit on a few walking-sticks?

When I started to select some Apple trees for my garden, I did so light-heartedly, but the perusal of a few catalogues soon put that right. I found that all Apple trees were the same, except for colour and the differentiation between dessert and kitchen varieties, but that each grower had one, or perhaps two, which were absolutely pre-eminent. On further investigation, however, these latter were found to be unsuitable for the average amateur, and apart from this feature such trees are usually fully described, and there is not much complaint to be made about the descriptions given.

The more ordinary tree is commonly only favoured with some remark that it is "like the last, only more so," or "bears large fruit briskly flavoured." Again, in some cases the colour of the fruit is given, and in others is entirely omitted.

Much the same sort of thing is done in connection with flowers and vegetables, and I *do* wish someone would start a catalogue listing their products with a certain degree of regularity in their descriptions, which should also be based upon certain standards. My ideal catalogue of fruit trees would have several columns on each page. The first would contain the name of the fruit; the second would state colouring; the third its shape, with any peculiarities there may be; the next would quote the average size of fruit in pounds or inches; yet another column would state in which form the tree flourished best, *i.e.*, as standard or espalier, &c.; then should follow a statement of season and of flavour when ripe, and the latter would be based on a few well-established favourite varieties. Further details would then be given as to the most suitable locality and soil, stating also whether the variety was suited for the orchard or small garden.

This sounds as though there would be too much "column" about the book. However, the information would not necessarily be given in columns, but should be set down in the same order in each case. Symbols could, of course, be used, and I rather favour the use of an outline of each fruit being printed alongside or beneath its name. Another thing about my ideal catalogue would be that all the names would be given alphabetically, according to their class or to the important word in the name. Thus all the Pippins would be ranged together in their alphabetical place, and we should not behold the spectacle of the "Allington Pippin" heading the list, followed by the other "A's" and "B's" of the Apple world, before reaching "Cox's Orange Pippin." Yet again, all the "Dukes of ——" should not be lumped together under "D," but be placed in true alphabetical order according to the places of which they are "Dukes."

No doubt it will be objected that such a method would be too methodical, and, although perhaps suitable for a text-book, would prove too dry and uninteresting for a catalogue, which is expected to arouse a certain amount of enthusiasm in the reader. Now this is where "my" catalogue would pile on perfection, for, in addition to the bald but *useful* information given, any amount of photographs and florid writing would be presented to the astonished reader until he was moved to cheers, and yet all the time his outbursts would be safely based on the dry rocks of description, at least approximately accurate. In conclusion, let me give two descriptions, one characteristic of the ordinary catalogue, and the other taken from my ideal lists:

Usual Description.—Red Juneating, medium size, finely flavoured, slow grower, but succeeds well on Paradise stock. Fit for use August.

Proposed Description.—Juneating, Red. Bright red, rather flat, about 2½—3 inches across. Standard. August. Crisp and juicy if not allowed to stay till red all over; rather sweet, about the same as Cox's Orange Pippin, but not aromatic. Suitable for garden. Prolific in light soil. Slow grower.

C. N. MACDERMOTT.

APPLE IRISH PEACH.

IT is somewhat of a coincidence that the Rev. Joseph Jacob should be voicing what I have had in my mind for some time past. At my billet there is a fair-sized tree of this variety, which this season bore an immense crop of fruit. Prior to deciding its identity, the owner had informed me that it was an early Apple of small size and not particularly prolific, due, he thought, to the fact that it was always eaten up by caterpillar. The shape of the tree did not please me, for obviously it had never been pruned, while a new head had grown out above the original, so that it reached up some 18 feet or 20 feet. Noting that all the shoots were crowded with fruit-buds, I refrained from doing much in the way of pruning. When in flower the tree was a marvellous sight—simply a dense mass of bloom; but I was assured most of it would drop. However, it was rather late in flowering and no damage by frost occurred, so that I may safely say that 90 per cent. of the blooms set. Scarcely a twig without fruit was visible. I kept a close watch on the tree when the foliage developed, but no pests could I find, until one day I discovered two colonies of lackey moth caterpillars. The owner at once said that these pests would swarm over the tree in no time. "Sure," I replied, "if we allow them," and without further ado I cut out the colonies and destroyed them. Not another "critter" did I find afterwards, and in due course the owner saw his Apples swelling "wisibly," and long before they were ripe the youngsters started gathering all within reach. It was some time in August that I tried a sample, but it was towards

HERB WALK AT ABBEYLEIX HOUSE.

(*See page opposite.*)

mid-September that the fruit was really ripe. My word! Where does the talked-of Gladstone compare with it? I gathered over four bushels, and I daresay two bushels had already been gathered. To me the Apple was a stranger, for I could not place it with any variety because of its earliness; but a fruit-growing expert at home immediately recognised it. While the bulk of the fruits were rather small, there were a few near the top of the tree that measured some 2½ inches in diameter. For flavour and juiciness Irish Peach is truly "some" Apple. Certainly, as Mr. Jacob has said, Gladstone is not "in it"; in fact, the boys of my tent voted it the "peachiest" Apple they had ever tasted. Whatever experts may say regarding Irish Peach, it appears to me that it is a variety that fruits freely on terminals, and that it may well be left alone so far as pruning is concerned. I might mention that Irish Peach will duly be planted in my garden, even if Gladstone has to come out. As a matter of fact, Gladstone has proved a very shy cropper, and this season it did not bear a solitary fruit. T. A. W.

Herbs at Abbeyleix House

ABOUT the cultivation of medicinal herbs there is almost an "odour of sanctity" and an influence of far-gone times; therefore in the Church Walk of the Abbeyleix House gardens they seem most suitably placed.

There is a very interesting collection of a great many kinds (of which I give a list), and, in addition, a good collection of the culinary and sweet herbs. Each variety of herb is planted in a triangular-shaped patch, and the whole effect is very pleasing. On a bright August morning the contrast of Borage and Marigold was very charming, but herbs, as a rule, are not gay in blossom and their foliage is rather of the more greyish green type. In the Blue Garden the two most valuable herbs—Atropa Belladonna and Hyoscyamus niger (Henbane)—have been interned. The former has done very well, and yielded a reasonable first crop of leaves for this season.

The Henbane has not yet appeared, but no herb-grower would be daunted by that, knowing that the seed has in some cases lain dormant for over fifty years.

On the Terrace some of the beds are filled with Camomile, Marigold, Mullein, Aconite, Black Pansies, Thyme, Marjoram, &c.; and its sunny, open situation should suit most herbs well. There are two field crops in the demesne—Datura and Blessed Thistle. The former—with everyone—suffered in the early part of the year from slugs and snails, and had in many instances to be replanted; but now, though late, it promises to be a good crop. The Blessed Thistle also saw trouble in its early days, and a great proportion of it was grubbed up and eaten by mice, pheasants and pigeons, and a portion of the field is quite bare; but where it has taken hold the Thistle grows fiercely, plant jostling plant for elbow-room.

As will be seen in the picture, the individual plants are very large, and are, I should think, 2½ feet high or more, and about 3 feet from tip to tip of the branches.

Mr. McGlashan has taken a great interest in this new line of horticulture, and has now in his care a very large and representative collection, which should prove of much use to students. He also has made careful notes of sowings and germination, and of any difficulties he has had. One most useful thing he has discovered is that Belladonna leaves can be quite successfully dried without heat. This, of course, needs care and time, but some of his dried stuff was examined by Miss Geoghegan, the Leinster Herb Association Drying Expert, and she said that it was *excellent*, both in colour and texture, and was quite as good as some that she had dried at a high temperature.

Though the herbs in the garden are more pleasing, the field crops are in a way more instructive and helpful, as so few people have had the courage to grow a large quantity of herbs. It is undoubtedly that form of herb culture which may be made profitable, and we shall owe a debt of gratitude to anyone who will pioneer a new industry in this way, hoping, meantime, that those who have started on the larger lines will continue to help and show us the way.

The following is a list of the herbs grown in field and garden at Abbeyleix House: Belladonna, Henbane (sown), Hyssop, Camomile, Artemisia, Thyme, Pennyroyal, Hollyhock, Mallow, Solanum nigrum, Lavender (Lavandula vera), Coriander, Rampion, Poison Hemlock, Inula Helenium, Balm, Horehound, Catmint, Rue, White Dead Nettle, Parsley, Teucrium Chamædrys, Aconite, Fennel, Dill, Aniseed, Angelica, Datura, Blessed Thistle, Verbena, Mullein, Borage and Nicotiana.

MURIEL E. BLAND, in *Irish Gardening*.

HOME-GROWN HARICOTS

BY W. L. LAVENDER.

IN these days of rationing, home-grown supplies of Haricots are very useful. Plenty of people have tried this year for the first time to ripen these Beans, and many have been successful. I am sending for the Editor's inspection some that have been grown on an allotment near London, ripened in the open, and taken indoors early in October. Although I have grown Haricots in quantity in France, I had not previously had an opportunity to grow them in England, but I saw no reason why they should not succeed, as the conditions are very similar to those in the region of Paris as regards climate, &c.

THE BLESSED THISTLE (CARBENIA BENEDICTA) AT ABBEYLEIX HOUSE.

Ground was not secured before the middle of March, consequently no digging was done previous to the spring, and, as it was very heavy and wet, it could not be worked very much until rather late in the season. It was dug over one spit deep only, but had it been possible it would have been more deeply worked. No manure of any kind was given, but the ground had been in fairly good condition previously. When it was dug it was too wet to break up finely, and it was impossible to do this before it had dried and then been wetted again. When this occurred it was easy to secure a fairly fine tilth. It was then made up in ridges about 2 feet apart, and in the second week of May seeds were sown on the sunny side of the ridges in clumps about 15 inches apart, putting five or six seeds in each clump and covering very slightly. As soon as the second leaf appeared, the soil was lightly drawn up to the stems, and later, as they grew, they were earthed up with about 6 inches of soil, as one would for Potatoes.

Of course, sown thickly together, one does not get a long succession, but a lot of seed is set at one time and it ripens off earlier than if the seeds are sown more thinly and a longer succession secured. Two tall-growing kinds also were grown, of course requiring more room, the variety Haricot de Soissons à rames growing about 6 feet high. This is one of the most widely grown Haricots in France, and one of the most esteemed varieties. It is grown everywhere, but in ordinary times in great quantities at Soissons, near Paris, for export. The nearest equivalent in English lists is Sutton's Tender and True, as far as I have seen, but it is not identical with it. The seeds are white and flat and freely produced. The other variety that required staking was H. coco or H. de Prague, the seeds of which are lined chocolate colour and are round and heavy.

Dwarf varieties grown were Sutton's Green Gem, which gave very good results. The seeds of this are light green and equivalent to the variety H. Roi des Verts of the French seedsmen, which is grown largely for use as "Haricots verts." The Brown Dutch kind sent out by the Royal Horticultural Society was another variety, and ripened seed very well, but not quite so quickly as H. de Prague. Another brown-seeded variety of which I have not the name also gave good results, comparing well with the Dutch kind. Sutton's Masterpiece, a few plants of which were left to try, has also given a good crop.

All the plants were pulled up when yellow and hung on sticks to dry, being tied up in bundles by the stems, then taken to a shed early in October, and put in sacks to be beaten out as wanted. As a crop they are certainly well worth growing—especially in times such as these—where anyone has the ground to spare. Last season was anything but an ideal one for them, but there is certainly a fair prospect of success in growing Haricots for drying.

ABERUCHILL AND ITS GARDENS

A CHARMING GARDEN IN PERTHSHIRE.

By. S. Arnott.

In one of the most beautiful districts of Perthshire, and quite near Comrie, stands the ancient Castle of Aberuchill, the property of Mrs. Walter Jones, a true lover of gardens and flowers. The castle is a fine example of old Scottish architecture, and a portion dates from about 1642. It is a charming picture with its white walls gleaming in the sun, as was the case on the day of my visit. Standing in a finely wooded park, amid the most verdant turf and noble trees, with a background of the picturesque hills of the Comrie district, Aberuchill is a delightful place, and one cannot but be grateful for the fact that it stands unimpaired, although in imminent danger some years ago, having been set on fire by certain militant suffragists, whose attempt was largely foiled by the zeal of the estate workers and others, who checked the conflagration before irremediable damage was done.

THE ANCIENT CASTLE OF ABERUCHILL.

The estate of Aberuchill is a charming one, and not the least of its finest features are the gardens, which it was the writer's quest to view. A notable feature of the horticultural department is the wild garden in the wood. It is happily placed just beside a charming waterfall, which is formed by a stream rushing from the hills over the rocks. Beside it, and extending further down the steep banks of the glen, is the wild garden, one of great beauty and many attractions to the plant lover. Lilies are evidently a great speciality here, and the tall spikes which had earlier borne the grand flowers of Lilium giganteum attested the happiness of this magnificent Lily at Aberuchill, although the wealth of young plants showed by their vigour how congenial the Giant Lily finds the soil and conditions there. Liliums Krameri, Henryi, auratum, pardalinum, superbum, the white Martagon and numerous others are splendidly grown.

In autumn [illegible] plants are in evidence. There is here a remarkably fine specimen of Gunnera scabra; there are grand plants of Senecio Wilsonii and others; while Helianthuses and other good herbaceous plants abound. Saxifraga peltata is also very fine, and Irises of numerous species do well. Primulas are happy, and there are great numbers of plants of such species as japonica, rosea, pulverulenta, Cockburniana and other suitable species, together with Polyanthuses, &c.

Astilbes and Spiræas add grace to the wild garden; while early Anemones, such as blanda, apennina, Robinsoniana, &c., with Snowdrops, Daffodils, Cyclamens and many other early flowers, give this Eden-like garden many delights during the earlier season. From the wild garden the stream flows through the finely wooded park, and is fringed with Irises of numerous kinds, Spiræas and Astilbes, including some of the Arendsii coloured varieties. In spring there are acres of Daffodils and other bulbs in the grass, and it is easy to imagine how exquisite must be the effect in the time of these flowers.

The Rose garden is composed of beds cut in the grass. These are of a simple character, and contain good groups of many of the finest Roses of the time. Mrs. Walter Jones appreciates the Roses of Irish origin, and here are to be found some of Messrs. Dickson's and Messrs. McGredy's newer creations, together with such Pernetiana varieties as Rayon d'Or, which has a better constitution here than Constance.

Thence we reach a charming bit of wall gardening, a low retaining wall having been transformed into a pretty wall garden, filled with many good treasures dear to the heart of the admirer of alpine flowers. Here are excellent collections of Saxifrages, including all the best of the new Red Mossies and other sections of the favourite genus to which these belong. There are many Dianthuses, Campanulas galore, Anthemises, Ramondias, Shortias, Galax aphylla, Drabas, creeping Phloxes, Violas and, in a word, representatives of the best genera of these miniature flowers, which grow ever dearer to their cultivator, and which Mrs. Jones so much appreciates.

Passing through an elegant wrought-iron gateway we enter the garden proper, where one is struck by the brilliance of autumn Phloxes and Lobelias of the cardinalis types.

It is impossible to recount the many other good things to be seen in and about the gardens of Aberuchill. There are many choice shrubs, also quite a varied collection of the newer Rose species, Berberises, &c. Rosa Moyesii is exceedingly well grown; R. Willmottiæ flourishes; so does R. Hugonis. The variety of other flowering shrubs is very large, and all seem happy in that pure Perthshire air.

It is pleasant to observe the good relations which exist between Mrs. Walter Jones and her able gardener, Mr. Robertson. Where such prevail it is not so surprising to understand how well kept are the gardens of Aberuchill, in spite of the fact that the difficulty of obtaining labour owing to the war has reduced the staff almost to vanishing point.

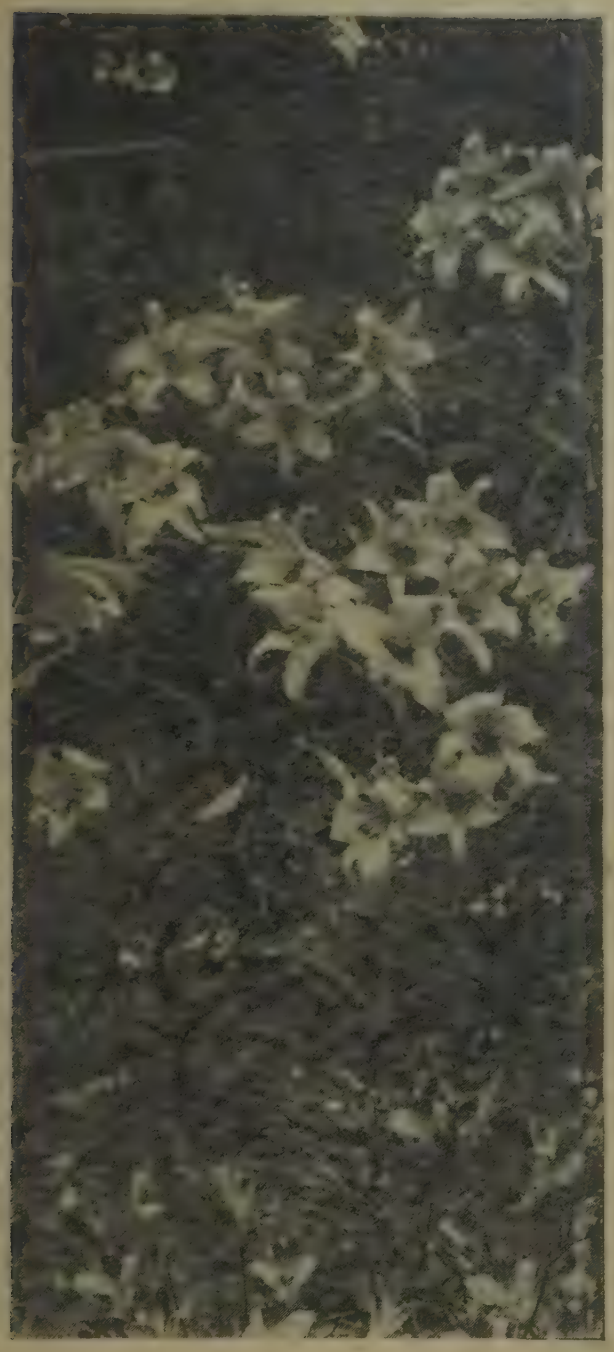
It may be said in conclusion that Aberuchill and its gardens are among the most delightful of the many gardens of all kinds the writer has been privileged to visit.

AN ASPECT OF FLOWERS & MUSIC

In the far-off days before the war and the black blight of Prussianism swept over the fair face of God's earth, flowers and music went hand in hand at our brave summer shows, and our eyes and ears were gladdened with a feast of colour and sound. It is with interest and profit that we may now consider them in another aspect, since the study of one helps us to understand the other the better.

We read in THE GARDEN of October 6 that, "given a certain group of colours, by adding another colour at the side of them you will either improve the group and render it more delightful or injure it and render it discordant." We all know this, but it is well to enquire into the reason for it, and it is here that music can help us. Such discordant colour groups may exist in wearing apparel, decorative fabrics or flower-beds, and thus it is that "combinations of colour that we should not tolerate in pictures and in the decoration of our houses should not be tolerated in our gardens," or, indeed, anywhere else. What a strange comment on this statement it is to be informed, as we are, that "were this teaching carried to its logical conclusion, it would involve making a clean sweep of thousands of the denizens of the flower garden." With logic such as this, why stop at plants? The gardener must certainly be included among the denizens, since it could be said of him, as of a house for sale, "the owner has no further use for him." The *true* logical conclusion is to plant all except the gardener with due regard to colouring.

We are further told by the same writer that "Nature has violated every man-made law of colour combination." It is an error to suppose that there is any such man-made law, but our scientists have taught us to perceive that there is a Divine one. This it is not difficult to show. If two tuning-forks are in perfect unison, both of



LILIUM KRAMERI IN WOOD.

them giving us the note A, for instance, the sound flows from each evenly and smoothly as if from one; but if a small weight be placed on one of them, we cause it to vibrate more slowly, and so cause the pitch of the note to be slightly lowered.

If one of the forks performs 101 vibrations in the time required by the other to perform 100, they coincide when starting, and again at the one hundred and first beat, one fork having gained one whole vibration on the other; but at the fiftieth beat the two forks are in opposition, and the even continuity of the sound is interrupted, for one fork has gained half a wave length on the other. Instead of an even flow of sound from the two forks, we get shocks of sound separated by pauses.

With colour, exactly the same thing occurs. The sensation of blue is produced by a definite number of rapid vibrations per second; the sensation of red is produced by much slower vibrations. If we mix the red with the blue we get a sensation of purple, because we lower the rate of vibration, just as we did by loading the tuning-fork.

The blue and the purple vibrations behave towards each other in precisely the same manner as the vibrations issuing from the two tuning-forks when one of them is thrown out of pitch. Those who possess an ear for music are distracted in the one case; the eyes of those who possess a colour sense are distracted in the other.

In the front of a *red* brick house which I frequently pass, *scarlet* Geraniums are to be seen in the window-boxes, while in the border beneath them Geraniums of a deeper shade are planted between [illegible] and yellow Calceolarias. They proclaim to those who pass that the occupants of the otherwise desirable residence possess a colour sense on a par with the musical sense of the child who delights to bring both of his dear little chubby fists down on the keyboard of "that long-suffering domestic instrument" the piano. The planting of the Geraniums thus referred to shows a lack of knowledge of the natural law relating to colour. The effect is that of pure anarchy.

Let us now carry out the same arrangement of colours into the sitting-room for one moment only. On the table we will place a brick red cloth; on it we will place a vermilion table centre; upon this we will place a yellow vase containing some pink Roses. Is it here that a weary city toiler can find repose? Alas! we must answer, in the words of Mrs. Hemans, "Not there, not there, my child!"

The artist goes direct to the Great Master and Teacher Nature for guidance, and strives to reproduce her colour harmonies. Such artists as Burne-Jones, Albert Moore, William Morris, Walter Crane and Lewis Day derived their inspiration and their colour schemes from natural objects. I have watched with great interest the skilled workmen engaged in carrying out the colourings such as we find in the richest brocades, the finest woven fabrics, and even in the best hand-painted wallpapers, with such natural objects as a butterfly, a moth, a tropical bird or a flower placed in front of them for guidance.

As the pages of THE GARDEN now contain matter relating to our feathered as well as our floral friends, it may not be out of place to remark that for a real eye-opener, object-lesson and revelation concerning combinations of colour, the Small Birds House at the Zoological Gardens is hard to beat, but the less said about music here the better. They are not song birds, though some of them speak fluently in English.

Colour harmony depends not only on the colours combined, but on the proportion in which they are combined or their balance. In the harmony of a simple chant or hymn a chord is frequently met with which, if sounded by itself, would be a discord, [illegible] if [illegible] follow, it appears harmonious and helps to bring out the sweetness and richness of those with which it is associated.

We meet with something very similar in the scarlet flower of the Cactus. Here a most daring and unexpected combination occurs, for we find a touch of emerald and a remarkable suffusion of *magenta* which serve to give an added brilliancy to the preponderating mass of scarlet.

Again, in the lovely seed-vessels of the Spindle-wood we find an extraordinary combination of soft pink and orange. The slightest alteration in the tone of either would produce a discord. Such plants as these have long been treasured for their decorative effects, both in the dwelling-house and out of it, and they form charming subjects for pictures and panels such as the Japanese excel in. Such combinations of colour would be extremely difficult, if not impossible, to follow out when planting, even by the greatest master, but one might find it attempted in Japan. When any pair of colours combined together make white light, they are named "complementary colours." If any two tints are so related that each contains the constituents wanting in the other, the one is "complementary" to the other. Crimson is complementary to moss green, scarlet to peacock, orange to turquoise, yellow to blue, primrose to violet, greenish yellow to purple. When one of these complementary colours is seen, the eye naturally craves for the other. When they are associated they always produce a pleasurable combination. This, again, has a physical cause, and is due to no "man-made law." If we look fixedly for a few moments at a scarlet disc and then look away from it, we perceive a peacock coloured ghost of it. The red colour has fatigued the eye and the retina is unable to respond to the red rays as readily as it does to the other colours. The eye craves for relief, which we supply when we place flowers possessing complementary colours side by side.

All must admit that the scarcely distinguishable flavour, the delicately blended illusive perfume, the exquisite and unexpected chord in music, have a far greater fascination for us than the

ARBRUCHILL: PILLARS AND GATEWAY.

strong taste, the crude and easily recognised smell, and the single musical note. They stimulate our minds and suggest to us a sense of mystery we fain would pierce.

In the subtle blended shades and shot colourings of many of the Tulips we have in each individual flower a precious *chord* of colour, while the glowing crimson of the Gesneriana may be not inaptly compared to the single clarion note of the trumpet, when viewed from a distance. When near at hand we see the wonderful peacock blue at the base of the flower, and what an unexpected combination it is with that gorgeous crimson!

"The garden is not the place for monotones," because it would be impossible to produce one even in green; but the quiet backgrounds encouraged by our decorative artists are now, fortunately, popular. They evidence a desire to get back to Nature, with her wide blue skies, tranquil expanses of field or lawn, and her restful Yew trees. One might grow a collection of flowering plants, but one could never make a garden without the relief that such spaces afford.

Although a slight knowledge of the Divine laws which govern colour harmony may appear to limit colour arrangements in the garden, a fuller knowledge of natural law and a closer study of natural objects will reveal endless vistas of possibilities and excite a man to deeds of daring that he could never essay nor evolve from his own inner consciousness. H. H. W.

ROSE-GROWING IN THE WESTERN HIGHLANDS

IT may interest some of the readers of THE GARDEN to hear something about Rose growing in the far-off Western Highlands, in the midst of mountains. Rose-growing here is done under difficulties. Our climate is the first difficulty, as we had *only* 78 inches of rain last year (it is the penalty we pay for the presence of the glorious mountains, and we often wish some other part of the country paid it); and just think of that penalty of 78 inches of rain, ye happy Rose-growers of the South with your puny rainfall of 25 inches or so in the year, and rejoice! We have good reason to envy you sometimes, but we will not part with our mountains, all the same! The second difficulty is one of soil. Our light, porous soil the Queen of Flowers cordially dislikes; but if it were not for our porous soil, Her Majesty would be drowned, without a doubt. Yet, in spite of our difficulties, Roses do flower more or less—the decorative varieties, as one would expect, more; the exhibition varieties, less.

First and foremost in freedom of flowering in our garden is Mme. Edouard Herriot. Is she not first everywhere, with blooms of wonderful colour? Rain and shine are both alike to her, and she flowers more freely than Flame of Fire. Willowmere is also generous with its blooms, and does not mind the rain; but the Lyon Rose is very shy in flowering here. Rayon d'Or, although erratic in growth, flowers well and is far better than its supplanter (?) Constance. Lady Pirrie (what a splendid garden Rose this is!), Mrs. Fred Straker, Dorothy Page-Roberts, Viscount Carlow, Mrs. A. R. Waddell, Mrs. P. Blair and Chrissie McKellar are all fine growers and free bloomers. Queen Mary, too, an exquisite Rose, flowers freely, but does not grow. The plants seem the same size as when they were put in years ago. Mrs. Cornwallis West, strange to say, with its many-petalled, sweetly-scented blooms, flowers profusely; and Jonkheer J. L. Mock, Lady Alice Stanley, Mme. P. Euler, Sunburst, La Tosca, Caroline Testout, and that chaste and beautiful Rose Mme. Mélanie Soupert all flower freely; but Beauté de Lyon and Soleil d'Angers refused to flower at all this year. Our climate seems to suit Roses of brilliant colour like Red-Letter Day, of wonderful colour and so free flowering here; but "K. of K.," a new-comer, is a still more wonderfully coloured Rose, for its large, semi-double, velvety scarlet petals are superb in colour; indeed, it is the outstanding colour in the garden, and at once attracts attention. I have budded on seedling cutting and Laxa stocks, and for our light soil the Laxa stock is the best. (Rev.) E. BENWELL.

ROSE LADY ALICE STANLEY IN A READER'S GARDEN.

THE WILD ROSES.—III

A NATURAL CLASSIFICATION OF THE SPECIES OF ROSES.

BY R. ALLEN ROLFE, A.L.S.

MANY systems of classification of the genus Rosa have been proposed, some confessedly artificial, others intended to indicate, as far as possible, the progressive development of the genus. Both succeed in bringing together groups of allied species, but the object of a natural classification is also to trace the evolutionary history by the help of existing characters. This object naturally followed the publication of Darwin's immortal "Origin of Species," which it has been well remarked plucked the old tree of natural history up by the roots and planted it again in fresh soil.

It might be a little difficult to say what the ancestral Rose was like, but most botanists agree in placing the simple-leaved Rosa persica—often known under its later names of R. simplicifolia or R. berberifolia—at the foot of the series. It is not only remarkable for its simple leaves, but for the absence of stipules, the numerous needle-shaped prickles of the calyx, the bright yellow petals with a crimson spot at the base, and the depressedly globose, pale green, bristly fruit, crowned with the persistent sepals. "Its whole appearance," remarks Lindley, "is remarkably unlike the rest of the genus." It is a native of Northern Persia, Soongaria and Afghanistan. Dr. Aitchison remarks that in Afghanistan it is the most characteristic shrub of the country from Bala-morghab westwards over the whole Badghis the Hari-rud valley into Khasan, up to an altitude of 3,000 feet. It was found by Olivier covering the plains near Amadan and in many other places in the same neighbourhood. Unfortunately, it is not hardy in this country, and attempts to grow it inside have not met with much success, probably owing to the difficulty of imitating the conditions under which it grows naturally. There is a plant at Kew, but it very rarely produces a flower. In the South of France, however, it succeeds, and here appeared the only hybrid from it that is known, namely, R. Hardii. An attempt is said to have been made to increase the species by seed, but the flower must have been pollinated by insects from a neighbouring bush of R. involucrata, for the seedling had pinnate leaves and was in other respects intermediate between the two, though the petals were yellow, with a crimson spot at the base. The hybrid is also tender in this country. R. persica was separated as a distinct genus by Dumortier, under the name of Hultheimia berberifolia, but is now generally considered to represent a subgenus at most, for which the name Hultheimia is retained. Lindley afterwards figured it under the name of Lowea berberifolia (*Bot. Reg.*, t. 1261), the rest of

the genus being included in a second subgenus called Eurosa, the latter being characterised by the pinnate leaves and the presence of stipules.

The subdivision of the great subgenus Eurosa into natural groups, and their arrangement in a progressive series, is not easy, partly because of the existence of intermediates and partly on account of the difficulty of deciding which are the most primitive characters. Most recent authors have commenced with the Synstylæ, but these are obviously highly specialised and better occupy the other end of the series, where they are placed by Focke. The primary divisions have generally been based upon the armature, but this sometimes separates species that are allied in other respects, and a more natural arrangement may be sought in the structural details of the flowers and fruit. A search among Roses proper for characters approximating to those of the primitive R. persica is necessarily thus limited, since the pinnate leaves and the presence of stipules are common to all of them. The nearly free, deciduous stipules of the Banksianæ are exceptional, but this is not a primitive character, as will be seen hereafter. But there is one section of Eurosa which in the characters of the fruit bears a very close resemblance to R. persica, namely, Microphyllæ, and the floral details are sufficiently in agreement, with the exception of the large purple petals; while the compact, bush-like habit is what we ought to expect. These characters more than compensate for the differences in other vegetative characters, and we are convinced that the Microphyllæ form the starting-point of this great division of the genus.

The section Microphyllæ is monotypic, and the characters of the fruit are well shown in the illustration, page 548. R. microphylla has a curious history. Its double form has been known for over a century, and was described from plants in the Calcutta Botanic Garden that were said to have been received from China. A plant was sent home, which flowered in Colvil's nursery in 1824. In 1862 the single form was collected by Maximowicz on the shores of Lake Hadone in Central Japan, and some years later it was met with by Dr. Shearn at Na-kiang in Northern China. It has since been found in the provinces of Szechuen, Hupeh and Yunnan, and according to Wilson is common in certain localities by waysides and in semi-arid valleys up to 4,000 feet elevation. It is sometimes used as a hedge plant. It forms a compact bush, with stout, woody branches, and the leaflets are small and from eleven to fifteen in number. The flowers are large and solitary; the rose purple petals having an expanse of 3 inches and occasionally as much as 5 inches. A white variety is also known, but this I do not remember to have seen. The large, tuberculate fruits have a very fleshy pericarp, which turns yellowish green when ripe, and they then have the smell and taste of an Apple. It is said that they are eaten by the Japanese. One hybrid of R. microphylla is known; this appeared in the Institut Botanique at Strasburg as a seedling at the base of a bush of R. microphylla, but the flower had evidently been pollinated from R. rugosa, whose characters it combined. There is a good bush of it at Kew.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Seeds for the 1918 Crops.—No time should be lost in selecting the varieties of the various kinds of vegetables for next season's crops, at the same time placing the orders early in the hands of seedsmen so that they can have reasonable time to execute them. It is difficult to lay down a rule that any variety of any vegetable is a success universally. For instance, Duke of York is one of the best of early Potatoes in some districts, while in others Eclipse is preferred. It is the same with second-early Potatoes. Windsor Castle is the favourite with some, while with others Warwick Castle is preferred. In the same manner preference is given to certain varieties in vegetables generally, none more so than in Peas. There are now so many Marrowfat varieties that there is no need to grow the smaller-podded sorts like William I., which at one time was so popular. In the same way more modern raised varieties in the second-early and general varieties produce much larger pods and naturally contain a greater number of Peas, which it is the aim of cultivators to obtain. It is not, though, in all sections of vegetables that we get superior varieties over some older sorts; for instance, the Onion. For a general crop of long-keeping bulbs of a suitable size for use, where can one find three better sorts than Brown Globe, James' Long Keeping and Maincrop? Two of these are certainly not new. Ailsa Craig, where huge bulbs are required, cannot be excelled; but all do not require these large bulbs. In Runner Beans there has been great strides made in varieties. It is not an uncommon sight to see pods 14 inches long, as compared with the 8-inch pods in vogue at one time. In Cabbage, too, we have ample choice of excellent sorts that require much less space than some of the older varieties; and space is the most important point to study at the present moment. We want all the crops we can obtain now more than at any time in the past; therefore close planting is an advantage. To give a selection of varieties in all sections would require more space than can be spared in this column. I purpose dealing with the subject in a special article.

ROSA HARDII, A HYBRID BETWEEN R. PERSICA AND R. INVOLUCRATA.

The Hardy Fruit Garden.

Pruning should be proceeded with as fast as possible before the cold weather renders the work less comfortable. In pruning bush, standard and pyramid trained trees, it is better to err on the side of thinness than the opposite. Every branch should be pruned on the cordon principle, viz., closely spurred right from the base to the tip, no matter if it is 15 feet long. One such branch will give more fruit than three of a weakly nature. Air, light and sunshine are the salient points to observe and provide. In pruning any tree where the spurs are of the right order as to number and length, the current season's shoots should be cut back to one eye, not to two or three as is so common among persons with little experience. The planting of single-stemmed cordon-trained Pear and Apple trees is largely on the increase in small gardens. This method enables those with limited space to produce many varieties and a quantity of fruit. If planted 18 inches apart in rows 4 feet wide running north and south, space can be profitably occupied. When planting fruit trees some writers advise that manure should not be used at the time of planting. I advocate a moderate quantity with every tree, because the aim in growing fruit trees is to obtain as much fruit as possible in a short time. If the trees do not cover a large area in quick time, how can fruit be had in quantity? I do not say the manure should be buried more than 1 foot under the surface. The roots should be kept as near as possible to the surface to benefit from the warmth gained from the sun. If the manure is buried deeper the roots go in quest of it and are further away from control, resulting in too vigorous growth of the wrong kind, viz., soft, sappy shoots which do not mature readily.

The Flower Garden.

Lily of the Valley Beds should be cleaned of leaves and weeds, the surface soil stirred, and be covered with a compost of decayed leaves, old Mushroom-bed material, and wood-ashes. Sprinkle soot over the surface before putting on the compost 2 inches thick.

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Swanmore, Hants.

FOR NORTHERN GARDENS.

Plants Under Glass.

Cinerarias.—The earliest of these are now showing colour. If given a very little artificial heat they come on rapidly, but it must be seen to that the plants are supplied copiously with manure water, otherwise the lower leaves will be lost and aphides prove troublesome. A moist base on which to stand the pots is an advantage. When cool treatment is given with a moist base, very little water will be required, but attention to insect attacks is always needed. Leaf-borers are easy to exterminate by crushing between the finger and thumb.

Calceolarias.—If these are protected from frost and given cool treatment the better will they thrive, making, under these conditions, abundance of roots and large foliage. Though dryness at the roots is fatal to success, the less frequently water is given the better, and coolness tends to keep the plants in a medium state of moistness at the roots, which is much better than having to apply water often. It also keeps the foliage free from attacks of aphis.

Begonias.—Plants of Gloire de Lorraine will need abundant supplies of manure water to keep them healthy and continually in bloom; a temperature of 55° suits them very well, and occasional vaporisings are needed to keep away thrips. Gloire de Sceaux needs similar treatment.

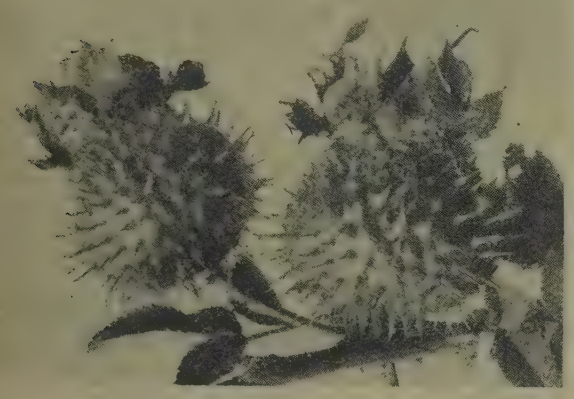
Cleaning.—There is no better time than the present to give plants a thorough cleansing, not only of insects, but also of the dirt that accumulates, unless the labour available is sufficient to meet requirements of this kind. Hot water at 150°, with soft soap dissolved in it, is a capital insecticide and cleansing agent for smooth-leaved plants that bear syringing with hot water, then rubbing the leaves and stems over with a squeezed-out sponge. For most plants, however, a less

vigorous system is essential, and there are so many insecticides available that one of these should be used in preference to home-made ones. To those whose experience is not great in their use, I may note that the sponge used should invariably be cleaned in pure water, and never charged with more insecticide till it has been so cleaned. Then, instead of using it dripping with insecticide, the sponge should be partly squeezed out again after being charged. It is more effective thus, and by cleaning off the dirt in pure water the insecticide lasts much longer and, of course, remains clean. Crotons and Orchids, especially East Indian Orchids, require much care in sponging, lest the leaves be split or otherwise deformed. Tobacco powder is useful for dusting among the flower-buds of Cyclamens on which thrips have gained a footing.

The Kitchen Garden.

Jerusalem Artichokes.—If these are still unlifted, it should be no longer delayed, sorting the larger tubers for use and setting apart the smaller ones for planting. They may be planted forthwith, a system which I follow. They need a highly cultivated soil, in which the plants make enormous growth, and on that account must have space for development. I set them out in double rows about a foot apart, with 5 feet or 6 feet intervals between. If the tubers are covered 7 inches deep, the plants will not need earthing up in summer.

Rhubarb.—Enough roots should be lifted to ensure a supply of stalks till they are produced naturally. Then make good the blanks so produced with portions sliced off permanent plants. Owing to the impossibility of hoeing among Rhubarb in the growing season, noxious weeds are apt to gain a footing. Any such should now be eradicated and, if the soil calls for it, a very



THE GREENISH YELLOW SPINY HIPS OF R. MICROPHYLLA, A PRIMITIVE ROSE.

(*See page* 545.)

liberal dressing of partly rotted manure be dug or forked in. But grass, leaves, or compost of all kinds affords a valuable substitute, the thing that is necessary being the absolute need of a very fertile soil to induce the production of long, succulent stalks for a long-continued period in the season of growth.

The Flower Garden.

The Rockery.—The less hardy plants should have some slight protection, such as Fern fronds or Bracken, placed lightly over and among them. The fronds of deciduous Ferns to be removed and the coarser-growing plants, such as Nepeta Mussinii, should be cut close to the soil. Any drifted leaves and weeds should be removed and light sifted soil or compost spread nicely all over bare spots, as well as among masses of plants, *e.g.*, Primula Juliæ, Mossy Saxifrages, alpine Campanulas, Vincas, and others of a like habit of growth.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

NEW AND RARE PLANTS

AWARDS OF MERIT.

Sophro-Cattleya Faboris (C. Fabia × S.-C. Doris).—A beautiful hybrid with a fine presence. The sepals and petals are golden, the latter broad, waved or undulated and of exceptional expanse. The lip, as also the exterior of the tube, is of uniform ruby red colour with white reticulation on its outer margin bordered with creamy white. Shown by Mr. J. E. Shill, The Dell Gardens, Englefield Green.

Cypripedium insigne Louis Sander.—The size and boldness of the dorsal petal is a considerable attraction in this variety. It is broadly bordered with pure white and copiously spotted with brown. The lip also is of brownish hue. From Messrs. Sander and Sons, St. Albans.

Carnation Mrs. Edward Douty.—A Perpetual-flowering variety of bright crimson scarlet, the two shades affording life and fire to a useful sort. It is also fragrant. From Messrs. Stuart Low and Co., Enfield, Middlesex.

Carnation Marian Wilson.—Much the finest yellow-ground fancy Perpetual-flowering Carnation we have yet seen, the flowers being of handsome proportions, the ground colour decided and good, the scarlet flaking bright and pronounced throughout. The variety has a non-splitting calyx. In the growing plants shown, great freedom of blossoming and bushy habit of growth were marked characteristics. A novelty of the coming year. The award was unanimous. Shown by Messrs. Allwood Brothers, Hayward's Heath.

The foregoing novelties were before the Royal Horticultural Society on December 4, when the awards were made.

The following awards of merit were made by the Perpetual-Flowering Carnation Society on the same date.

Carnation Marian Wilson.—See above.

Carnation Winter Glow.—A good free habit of growth and powerful Clove fragrance characterise this novelty, whose flowers are of medium size and scarlet cerise colour. From Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

SOCIETIES

ROYAL HORTICULTURAL SOCIETY.

THE last fortnightly meeting of the year on December 4 was also one of the smallest that we remember at this season, sharp frosty weather and the untoward nature of the times being the chief causes of so much empty space. Flowering subjects were represented by Carnations and Orchids, the last named from Messrs. Armstrong and Brown, Tunbridge Wells, deservedly gaining the gold Williams Memorial Medal—a rare honour. Two collections of fruit—Apples and Pears—were staged. Four novelties gained awards.

ORCHIDS.

It says much for the enterprise and enthusiasm of Messrs. Armstrong and Brown, Tunbridge Wells, that in the teeth of a severe frost a group meriting the gold Williams Memorial Medal should have been staged by them. Its dominant feature was some thirty well-flowered examples of Cattleya Maggie Raphael alba, hardly two being marked alike. Particularly noteworthy were the varieties splendens and Dreadnought, these being very striking. The most telling plant apart from these was a specimen of Lælio-Cattleya Diana var. Buttercup, the sepals and petals of rich gold in marked contrast to the chestnut scarlet lip. Cattleya O'Brieniana alba, C. Freya (rosy with crimson lip), Cypripedium Tracyanum, C. Minos, C. Troilus variety, and a lovely lot of Odontoglossums were others in a group rich in variety and beauty.

In that from Messrs. Sander and Sons, St. Albans, Cypripedium insigne Louis Sander (see "New and Rare Plants") stood out well. C. Leeanum Gratrixiæ was well flowered and handsome, others of note being C. Mavis variety, C. Corsair and C. Nubia variety, the last a shapely flower with white, peach-suffused dorsal petal and brownish crimson lip. C. Hippolyta (Dante × Hera), with white and rosy dorsal petal, was also effective and good.

From Messrs. Charlesworth and Co., Hayward's Heath, came a nice group, in which Lælio-Cattleya Cappel (orange and crimson), Brasso-Cattleya Rutherfordii (white, flesh tinted) and Sophro-Lælio-Cattleya Isabella (rosy pink with velvet crimson lip) were some of the best. This firm also showed some good Odontoglossums.

Messrs. Stuart Low and Co., Jarvisbrook, Sussex, had Sophro-Cattleya Doris and Lælio-Cattleya Alex, among others.

FRUIT.

Only two collections of fruit were staged in this section, the finer being that from Colonel W. N. Davis, Salt Hill House, Slough (gardener, Mr. W. R. Poullock), who had forty dishes of Apples and Pears, chiefly in capital form. The best Pears were Doyenné du Comice, Beurré de Jonghe and Olivier des Serres; of Apples, Newton Wonder, Blenheim Orange, Winter Codlin (particularly good), Charles Ross, Warner's King, Lord Derby and Peasgood's Nonsuch. Orange Pippin, Cox's Orange Pippin, Egremont Russet, Adam's Pearmain, Christmas Pearmain and Brownlee's Russet were also of fine quality. Silver-gilt Knightian medal.

Sir Daniel Gooch, Bart., Hylands, Chelmsford (gardener, Mr. W. Heath), was awarded a silver Banksian medal for a collection of thirty-two dishes of Apples, not of very high quality. Bess Pool, Cox's Orange Pippin, Court Pendu Plat, King of the Pippins, Bismarck and Bramley's Seedling were among the better examples.

CARNATIONS.

Messrs. Allwood Brothers, Hayward's Heath, in addition to their excellent novelty Marian Wilson, had Salmon Enchantress, Enchantress Supreme, White Enchantress, Benora and Triumph particularly good in a group which gained a silver Flora medal. Many vases of seedlings were on view.

In a grouping from Messrs. Stuart Low and Co., Bush Hill Park, Enfield, Red Ensign was the most telling and distinct. In the red-flowered class it is quite alone, catching the eye at once. Brilliant, Pink Sensation, Saffron (self yellow sport from Sunstar) and Czarina (heliotrope fancy) were very good. In a group of berry-bearing and other shrubs, Pyracantha Lelandii and Symphoricarpus lævigatus were the more conspicuous things, and Olearia ramulata, with starry white flowers less than half an inch across, quite the most interesting. Its neat habit is also distinct.

ANSWERS TO CORRESPONDENTS

ROSE GARDEN.

ROSE AND BRIAR SEED (*L. E. T.*).—If you have a greenhouse, the choicer Rose seeds should be sown in pots at once. Break the pods with a hammer, pick out the seeds, and sow thinly in 5-inch or 6-inch pots. Use plenty of crocks and a very sandy compost. Plant the seeds about half an inch deep, and keep the soil in the pots fairly moist. When the seedlings show the second leaf, pot off into 2½-inch pots and grow on in gentle heat. If you have no greenhouse, place the pots in a frame. The Briar seed may be sown outdoors at once in rows 18 inches apart. Be careful to protect it from mice and birds.

TREES AND SHRUBS.

PLANTING IVY AGAINST A HOUSE WALL TO ABSORB MOISTURE (*V. W.*).—It is very doubtful if Ivy planted against a wet wall would do much towards making the wall dry, especially if there is some structural defect in the wall, such as an improper damp course. Rather than depend upon a climber drying the wall, it would be advisable to have the structure properly examined with a view to finding the cause of the dampness; then take steps to have the condition rectified. At one time people considered that climbers of various kinds, and particularly Ivy, caused dampness in walls; but that idea has largely disappeared, for damp walls are found both bare and climber-covered. We have known perfectly dry walls thickly covered with Ivy, and also Ivy-covered walls which at various times of the year always showed dampness. The common Irish Ivy would be a suitable one to use for covering a wall quickly and well.

THE VENETIAN SUMACH AND RHUS COTINOIDES (*E. A.*).—In your letter you have mixed up two shrubs, for you have used the common name of one and the scientific name of another. Rhus cotinoides is a native of the South-Eastern United States, and is known under the common name of Chittam Wood; whereas the Venetian Sumach is Rhus Cotinus, a native of Southern Europe. The two plants grow together at Kew, and in making notes the two names may have become mixed. That would account in one way for your plant not colouring, for you may have ordered the Venetian Sumach, in which case it is likely that Rhus Cotinus was supplied, and that plant rarely colours well. Rhus cotinoides, however, if planted in rich soil cannot be depended upon to colour, the best colour usually being obtained from bushes growing in quite poor ground. If you send us a leafy shoot next year, we shall be pleased to advise you as to which species your bush is.

MISCELLANEOUS.

PLASTER OF PARIS AS A GARDEN DRESSING (*L. F. B.*).—Unless it were ground up very small, plaster of paris would be of little use in your soil. We recommend the use of chalk, finely ground, instead.

NAMES OF FRUIT.—*H. A. G.*—1, Fearn's Pippin; 2, The Houblon; 3, Bismarck (now called Kitchener in Covent Garden); 4 and 5, Newton Wonder.—*E. T.*—1, Nelson's Glory; 2 and 3, unknown; 4, Goff.—*A Pleased Subscriber.*—1, Lane's Prince Albert; 2, Annie Elizabeth; 3, probably Mrs. Phillimore; 4, Lodgemore Nonpareil; 5, King of the Pippins; 6, Pear Conseiller de la Cour; 7, unknown. The same variety was shown from another source before the fruit committee of the Royal Horticultural Society recently, but not recognised. There is no such Pear as White Comice; there is a Doyenne Blanc. There is no advantage in the practice of storing Apples stalk downwards.

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,, scarlet	1 4	10 6	—
,, yellow	1 4	10 6	100 0
Macrospila, crimson	0 9	5 0	50 0
Parisian, yellow	1 3	9 0	85 0
Picotee, white, edged pink	1 0	8 0	75 0
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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

MY rendering of the new Poultry Food Orders was a "winner," although my having to go to press with the poultry notes more than a week in advance robbed the same of the laurels due.

Poultry Mixtures.—It is sad to see the other poultry experts apologising for their mistakes of the previous week. One poultry paper originally declared that the Poultry Mixtures Order

> "renders it impossible for any dealer to sell a complete *poultry meal*, for every practical man knows that a meal is not complete or productive unless it contains a proportion of animal food. We draw the attention of the Board of Agriculture Advisory Committee to this point, for the inclusion of animal food in meals sold is a matter which must receive the Food Controller's authorisation. How much simpler it would have been had a number of standard *mashes* been compiled and maximum prices fixed."

As I stated in my last week's notes, the Poultry Mixtures Order concerns *grain* mixtures only, and not *meals*.

Standard Mixtures.—The Order tends to bring about a *standard* grain mixture, in that every mixture must now contain at least one ingredient which has been mechanically treated by bruising, kibbling or splitting. It will be no longer possible for a dealer to mix wheat, barley and *whole* maize and charge up the mixture at the full price of wheat. The maize (or one ingredient) must be kibbled or mechanically treated before the grains constitute a mixture. To sum up, we must have at least three principal ingredients, one of which has been mechanically treated. The profit allowed the maker is to be 30s. per ton beyond the actual cost of the ingredients. The cost of the ingredients includes carriage and delivery to the factory, and grains grown by the maker must be regarded at current market value delivered to the factory, while for reconditioning a reasonable addition may be made. I have already dealt with the maximum prices to be charged by maker and retailer, but the factor or agent is left. The factor is understood to be a person who sells to the consumer, acting as middleman, without handling the supplies, and his profit must not exceed a sum at the rate of 10s. a ton—just half the retailer's profit on a ton order. All who sell grain must keep accurate records, and their books will be open to inspection. The buyer has to bear the transport charges after delivery ex factory, *i.e.*, from the latter to the retail shop and thence to his food house, but the amount charged on same must be a separate item on the invoice, and can therefore be checked as reasonable or not.

Prices of Bran, &c.—My readers will do well to note that a new Order has been issued regulating the prices of bran and toppings (sometimes called, rightly or wrongly, middlings, sharps, shorts, thirds, pollards, blues, or boxings in certain localities). The Millers' Control Committee, which controls the mills is responsible for same, and the schedule of rates—in force from November 15—are:

Bran.—Over 2 tons, dealers' price, £12 13s. 9d.; consumers', £13. Over 5cwt. up to 2 tons, dealers', £12 18s. 9d.; consumers', £13 5s. 5cwt. and less, dealers', 13s. 8d.; consumers', 15s. per cwt.

Toppings.—Over 2 tons, dealers' price, £13 8s. 9d.; consumers', £13 15s. Over 5cwt. up to 2 tons, dealers', £13 13s. 9d.; consumers', £14. 5cwt. and less, dealers', 14s. 5d.; consumers', 15s. 9d. per cwt. All prices have to carry the addition of cartage, delivery and sacks.

Here again it is hardly necessary for me to recommend the purchase of these offals in bulk or co-operatively.

Type in Wyandottes.—The photographs of many of our best egg-producers have from time to time graced the poultry pages of THE GARDEN. This week's snapshot depicts five White Wyandotte hens which won first prize and all specials in the Philadelphia North American International Egg Laying Competition, 1915–16, for their breeder and owner, Mr. Tom Barron, The Poultry Farm, Catforth, near Preston. These five hens laid 1,305 eggs in the twelve months, or an average of 261 eggs each. Their respective totals were 289 (by "Lady Barron"), 259, 256, 254 and 247, and in the picture they are seen mated up to a cockerel bred from a 245-egg hen. Those who are interested in White Wyandottes will be able to study the type of these champion layers to advantage. The breeding of heavy *pedigree* layers is very fascinating, and success is possible only where the antecedents of every bird on the establishment are fully known.

WHITE WYANDOTTES.

Hens: Won the Philadelphia North American Competition, 1915-16, being sent all the way from Lancashire. Cockerel: Bred from a 245-egg hen. The property of Mr. Tom Barron. (See text.)

Examine Your Grain.—Miss E. F. of Stockport, in asking for my assistance, raises an important matter. I publish her letter, as it shows clearly the advisability of examining poultry grain, not only on delivery, but also periodically when stored. She writes:

> "I am in the habit of buying my poultry corn in large quantities at long intervals, as it is so much cheaper to do so, and I have excellent dry and warm storing places. So far I have had no trouble at all, though much of the stuff has been in stock six months or more. But to my disgust I find that a large bin of mixed corn is full of small black weevils, and as everything else is quite right, I take it they must have been there when I bought it, but escaped my notice.
>
> "As I have enough in stock to last till the spring, I am at a loss what to do, as the trouble is bound to be worse by then. Is there anything I can do to check the pest?"

Corn Weevil or Beetle.—My querist refers to the *black* weevil, but there are some 10,000 of the species, the corn weevil (or Calandra granaria) being the most remarkable of all and noted for the ravages it commits upon the corn in our granaries. This is a slender beetle of a pitchy red colour and about one-eighth of an inch in length. The larvæ are sometimes so numerous in a heap of stored wheat and commit such ravages that they leave nothing but the husks. Unfortunately, the mischief is generally unperceived till it is too late to remedy it. The female deposits her eggs upon the wheat after it is stored, and the young grubs hatched therefrom immediately burrow into the wheat, each individual occupying a single grain. There they undergo their transformations, and at the appointed time come out perfect beetles to lay their eggs for a second brood.

Applying a Remedy.—I do not wish my readers to become alarmed and imagine every time they lift the lid of the corn-bin they will see a thousand odd beetles there and no grain. It is a very uncommon incident, and I have quoted this isolated case only to acquaint my students with the methods to adopt should they at any time meet with such a trouble. I have recommended Miss F. to place the grain in a bucket, pour over boiling water, stir the whole, and then gradually dry the grain in the oven. As each lot of grain is so treated, it should be placed to a narrow depth on the floor of the dry storehouse until all is thoroughly dry again, and then be put into a clean bin. The old bin should be thoroughly scalded out with boiling water and placed in the open air for a time prior to being used again. It may be a laborious process, but it will gain the desired objective.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C. 2.

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ase repeat order for Complete Ideal Meal. **This meal does
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ase send another cwt. of your No. 1 Ideal Meal at once. **I don't
t to be without this food as I get such good results
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y fowls lay enough until I started using your Meal. Your Meal
all **and it's some food alright for eggs. Publish by all
ns—people want eggs now-a-days.**—R. SINGER.

12, Shepherd Street, Millfield, Sunderland, 3rd Dec., 1917.
ase send another bag of your No. 1 Ideal Meal. I find this a most
lent food and do not want to be without it again. The last supply
elayed on railway, and the food I was trying in the meantime
ed my fowls back a lot. They have now come on to lay again on
s, so please send along as I want to keep them at it.—N. COOK.

77, Wentworth Road, Harborne, Birmingham, 3rd Dec., 1917.
ase send 1 cwt of your No. 2 Ideal Meal. I had some in the
ner and found it **very** satisfactory. My pullets fed on it are doing
—A. FAZEY.

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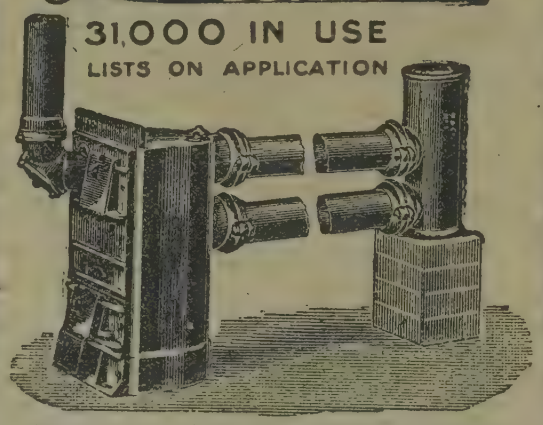

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A WEEKLY JOURNAL
FOR GARDEN, ORCHARD, WOODLAND
AND POULTRY

VOL. LXXXI.—No. 2405. SATURDAY, DECEMBER 22, 1917.

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THE GARDEN.

No. 2405.—Vol. LXXXI.] [December 22, 1917.

NOTES OF THE WEEK

"THE war will be decided in the prosaic region of the human belly," declared Mr. Prothero, President of the Board of Agriculture, in a speech at Nottingham. "Victory," he added, "would go to that side which could command the last sack of Wheat and the last stone of meat." He alluded to changed conditions in regard to Overseas food supply and the lack of tonnage, pointing out that we should raise every ounce of food that we could at home. Landowners and farmers must make greater sacrifices and take even greater risks than heretofore.

More Allotments and School Gardens Needed. The allotment movement deserves encouragement; it provides large quantities of vegetables for the consumption of the holders and their families, and so relieves the burden on the transport services. If land cannot be obtained by agreement, the executive committees should be asked to exercise their powers of entry, and, having taken possession of the land, to let it to the Parish Council for allotment purposes. The number of allotment plots so far reported as laid out under the Cultivation of Lands Order in England and Wales is 183,004. In a like manner the school garden movement also deserves encouragement, for it is on the schoolboy and schoolgirl of to-day that the future prosperity of our people depends.

A Record Potato Year.—In the Preliminary Statement issued by the Board of Agriculture it is estimated that the total production of Potatoes in England and Wales in 1917 is 3,339,995 tons, or 835,000 tons (33 per cent.) more than in 1916, and is the largest crop recorded since returns of the production of crops were first collected in 1885. The yield per acre, 6·57 tons, is three-fourths of a ton heavier than last year, two-fifths of a ton above the average of the last ten years, and has only been exceeded four times in the last thirty years.

Replanting Orchards in France.—Further consignments of fruit trees have recently been sent by the Agricultural Relief of Allies Committee to France for the replanting of the orchards destroyed by the enemy early in the year. They have been selected specially for their adaptability to the soil and climate of France's northern fruit-growing and cider-making districts.

Lonicera Maackii.—There are few of the Bush Honeysuckles more beautiful than this variety, which, though grown in Europe since 1880, is yet but little known in many gardens. In height it reaches about 8 feet to 10 feet, and the white flowers, which fade to a creamy yellow, are produced in great abundance. The accompanying illustration shows its value in the autumn and early winter months, when the bright red fruits are a cheerful feature in the garden. It was first discovered in Manchuria, and later by Wilson in China, so there need be no fear of its ability to support a cold climate.

THE BRIGHT RED FRUITS OF LONICERA MAACKII.

Jasminum nudiflorum.—The unusually full and early bloom of this charming winter flower, illustrated on page 554, sets one thinking about the best and prettiest ways of using it. Nothing is better on a fence or wall in any cool aspect, and a good thinning every second year will keep it in a satisfactory blooming state. But its natural way of cascading downwards makes one long for a bit of almost precipitous hillside where it could be planted high and allowed to rush down in torrents of its clear yellow welcome winter bloom. It lasts long as a cut flower, and every unopened bud will expand in the warmth of a room. We arrange it with good effect with branches of Golden Privet and the gold-splashed foliage of Elæagnus. In a garden where variegated shrubs are not much in favour these are grown mainly for their use as cut foliage with yellow and white flowers.

"How to Collect and Dry Flowering Plants and Ferns."—An interesting little book has recently been received on the collecting and drying of flowering plants and Ferns, which will be found of considerable use to persons interested in botany and Nature study. The work is by Harold Stuart Thompson, F.L.S. (a well-known contributor to our pages). It tells in a clear and concise way all that it is necessary for the collector to know from the time he sets out to procure his equipment until his specimens are mounted and put away in herbarium cases. Remarks are also given as to packing for travelling through the post. In schools where Nature study and botany are taught, the book will doubtless become very popular; and people who deal with the economic properties of plants will herald such a book with pleasure, for it will give children who intend eventually to go abroad an idea as to how to collect and dry specimens of plants they may from time to time find. One of the greatest drawbacks to the successful determination of various plants of economic value is the failure of people who send home for information to forward properly dried specimens of all parts of the plants in which they are interested. This book, by interesting young people in plant drying, may, to some extent, help to make people pay more attention to this matter. It is published by George Routledge and Sons, Limited, Broadway House, 68–74, Carter Lane, London, E.C.; price 7d. net.

Southampton Royal Horticultural Society.—At a recent meeting of the Council of the above society, Mr. C. S. Fuidge, who will complete forty-five years' continuous service as secretary at the end of this year and is in his seventy-ninth year, asked the Council to take an early opportunity to select a successor to his office. The Council, however, believing that the members would not consent to dispense with Mr. Fuidge's services altogether, induced him to consent to continue his office as secretary with the help of an assistant secretary, Mr. J. T. Robb, a former member of the Council, being appointed to that position. This arrangement was unanimously confirmed at a meeting of the Council held last week, the largest meeting held this year. At the same meeting the audited statement of accounts for the twelve months ending November 30 was presented, showing a cash balance in the bank of over £131; liabilities nil. The experiment of combining the Rose Show and the Summer Show in one exhibition has not proved a success from the exhibitor's point of view; it has therefore been decided to hold next year a Rose Show at South Stoneham House grounds (again very kindly lent by Ellen Lady Swaythling) on June 26, and the Summer Show on the Pier on July 23 and 24. It is also proposed to hold a fruit and vegetable show to encourage food production, special classes to be provided for allotment cultivators, on October 15 and 16.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

LOSSES FROM GRAFTED TREES AND SHRUBS.

MR. NORMAN RUSHWORTH is quite right, and his loss is slight compared with that of others. Hundreds of precious Lilacs have perished on the fœtid Privet, thousands of Tea Roses have gone to their death on the coarse Manetti stock. Half my Thorns of Northern Asia and North America have been killed, being grafted on our native Quick, which we see in thousands round our fields. The Quince, a beautiful shrub, is often misused. I lost a hundred plants of the Burning Bush (Pyracantha) sent me from a Surrey nursery, all grafted on the Quince, a heavy task to get rid of. As to Mr. Norman Rushworth's question, the first plants on their own roots which I ever had from an English nurseryman came this year from Mr. Russell's nurseries, Sheen Road, Richmond, Surrey. These few facts are not the whole story of the evils of grafting, but such as they are they deserve to be pasted up in every shed in a nursery. The nurseryman we want, and often have good reason to like; but his only mistake is in not controlling his propagator, who, judging by such results as the above, gets as near to imbecility in his work as it is possible to man.—W. ROBINSON, *Gravetye, Sussex.*

THE FRUITS OF LAURUSTINUS.

ON page 482 Mr. A. R. Goodwin quotes a description of the Laurustinus by Parkinson. In this the fruits are said to be "small, round, hard and pointed berries, of a shining blacke colour, for such have often come to my hands (yet Clusius writeth they are blew)." There ought not, one would imagine, to be any question as to the colour of the fruits of such a common shrub as the Laurustinus. But, as a matter of fact, they are, in my experience at any rate, very rarely seen. I suppose the season at which the flowers open prevents the development of fruit. Still, I remember very well seeing a few fruits on a bush some years ago, and my recollection is that they were blue. I have also fruits gathered in Kew thirty years ago and preserved by the late Mr. George Nicholson; they are distinctly ticketed in his own handwriting "fruits indigo-blue." I think Clusius will prove to be right and Parkinson wrong. Unless the Laurustinus developed fruits more frequently in Parkinson's time than it does now, the berries that "often came to his hands" must have been those of some other species. It may be that in the gardens of the South-West the fruits are better known.—W. J. BEAN.

BRUNSVIGIA JOSEPHINÆ.

COULD any reader of THE GARDEN give me a few hints on the culture of this plant? I got three bulbs of it a few years ago, and so far have failed to get it to flower. It grows all right when treated like the Amaryllises—and these bloom gloriously every spring—but bloom it will not. I would be greatly obliged by advice as to suitable soil, the proper temperature, and as to whether this plant should at any time be dried off.—C. BLAIR.

[It is some years before the bulbs of this Brunsvigia attain flowering size, and even then they cannot be depended upon to bloom every year. The bulb when fully developed is often larger than a Cocoanut. The best way to induce it to bloom is to treat it much in the same way as is so successful in the case of the Nerines, though, as a rule, it flowers somewhat earlier than they do. Towards the end of the summer it pushes up its flower-spike and commences to grow. After the blossoms are over, it must be kept in a good light position in order to perfect its growth during the dull portion of the year. It must be kept watered till the leaves begin to turn yellow in the spring, when less water should be given, and when the bulb is quite dormant be discontinued altogether. After this, full exposure to sunshine and dryness at the roots are necessary till signs of growth are apparent, when water must be given. A compost mainly consisting of loam, lightened with a little peat and sand, is very suitable for it. As with other natives of South Africa, this Brunsvigia is essentially a greenhouse plant, and will succeed in a minimum winter temperature of 45° by night, rising 10°

[BRUNSVIGIA JOSEPHINÆ IN FULL FLOWER.

or so in the daytime. In the summer the temperature of the outside air will be sufficient.—ED.]

THE HEIGHTS AND COLOURS OF TULIPS.

I AM extremely grateful to "B., Weybridge," for calling attention to the erroneous impressions conveyed in my article on Tulips which appeared in THE GARDEN of October 13. Upon reading the paragraph to which he calls attention, I must admit that one is likely to gather that some of the varieties are dwarfer than they really are, and for the slip I offer my apologies to the Editor and readers of THE GARDEN. Mainly, the error occurred in writing twice as much as was necessary, and then too carelessly trying to condense it. At the same time, I must say that I was writing from impressions rather than from actual measurements. I do not know if it is prevalent throughout the country, but there is a saying very common in the Eastern Counties that it "Takes a tall woman to look as tall as a short man." (Lady readers, please note that this is a quotation, not an assertion.) I am sure that few Cottage Tulips look as tall as a Darwin that is actually the same height. The more pointed petals contribute something to this, and the weaker stems of the Cottage section, causing them to hang over, more readily assist in this delusion. I thought only of comparison in masses, and although I fully recognise the value of "B.'s" criticism, I believe on the whole I was more nearly right than he suggests, if my remarks are taken to apply to broad effects rather than to isolated specimens.

When I wrote the articles referred to I had not had an opportunity of seeing that valuable work "The Report of the Tulip Nomenclature Committee." His quotations therefrom compelled me to do so, as although John Fraser may not be "tall or splendidly regal," it was with something of a shock I read that it was only 15 inches. Upon referring to the Report I find that no height is given, but that it is compared with Murillo, which is described as 15 inches. Surely a very poor and weedy specimen of John Fraser must have been measured to arrive at this conclusion. I should certainly place it at about 24 inches or even a little more. It is not so tall as Whistler, which is given in the Report as 27 inches. It is generally taller than Inglescombe Scarlet, which is, I see, given as 26 inches. Then I turn to Globe of Fire (Gesneriana aurantiaca), given as 30 inches, the same height as Mrs. Moon. I think those familiar with Tulips will agree that these two cannot both be right. Next to Mrs. Moon in the Report we find Avis Kennicott given as 22 inches. I have distinct recollections of seeing them growing side by side this year, and I am positive there was nothing like 10 inches difference between them. Avis Kennicott was nearer 27 inches to 30 inches. I do not know if the Rev. Joseph Jacob recollects calling my attention to the faint perfume of this beautiful Tulip as reminding him of Muscat Grapes. If he does he will perhaps substantiate my statement in this respect, as the blooms we were then looking at were considerably more than 22 inches, and were not out their full length. Parisian Yellow at 33 inches I should also have thought was the normal height, plus a good 6 inches of imagination, especially as Golden Spire is given as 25 inches and Inglescombe Yellow as 23 inches. There seem to be discrepancies somewhere in the following also: Beau Brummell, 25 inches; La Rêve 16 inches; Boadicea, 29 inches; Audley, 18 inches; Claudius, 22 inches; Marksman, 18 inches; La Merveille, 26 inches; and Flame, 27 inches. And if Orange King is 29 inches, Farncombe Sanders is certainly more than 30 inches. I do not think these can possibly all be right, though some of them undoubtedly are. Mrs. Potter Palmer, 31 inches, and Palissa, 27 inches, is giving rather too liberal an advantage to the former as compared with Palissa, and the difference between Mme. Krelage, 34 inches, and Anthony Roozen, 26 inches, also seems too great. In raising these points I have not the remotest intention of casting any doubt on the reliability of the Report. I have not measured the varieties mentioned, and speak only from memory. I am curious to know if my impressions are shared by others. The book is a valuable one, and even the complaint by "B." that the names are not in alphabetical order is discounted by the fact that an excellent index is furnished in the list of names on page 136 and onwards. [Also that the lists are arranged in colour sequence, which is most useful.—ED. With regard to the very kind personal remarks made by "B." in his opening sentences, I would like to say that it is the certainty of provoking intelligent and friendly criticism that makes writing for THE GARDEN so enjoyable.—GEORGE DILLISTONE.

APPLE FRENCH CRAB.

THIS is a favourite in Tasmania, but not on the mainland, being largely exported and also used for home consumption. Predominantly green, of medium size, remarkably round and an excellent keeper, its invariably high price late in the season is not due to external beauty. It is one of the earliest Apples introduced to Tasmania, supposedly from England. But I do not know it as an Apple of reputation in England, and take the fact that it is not listed by Messrs. George Bunyard and Co. as evidence that it has little vogue in the Mother Country under the name current for it here. Lacking a copy of "Hogg's Fruit Manual," I should be grateful for the history of this Apple; and should it have passed almost into oblivion in England, I suggest that its exceptional merits as an all-purpose late keeper might deserve resuscitation.—A. G., *Cambridge, Tasmania.*

[This is probably an English fruit, as it was noticed about the seventies of last century by Abercrombie, Forsyth, &c.; but no one ever seems to have given any historical data.—ED.]

VINES IN AN UNHEATED GREENHOUSE.

SOME time ago I sent you a photograph of "An Amateur's Vinery." I am now sending you another photograph of Vines grown this year entirely without artificial heat. The Grapes shown are those of Gros Maroc, Black Hamburgh and Muscat of Alexandria. Though this year has not been particularly hot or sunny, the Grapes coloured as well as in previous years and were of equal flavour to those previously grown with fire-heat. This proves that for maincrop purposes good crops can be grown in the South without any firing, sun-heat being quite sufficient. —HENRY HALL.

OUTDOOR GRAPES.

THE illustrated article on "Outdoor Grapes in London" in THE GARDEN of December 8, page 528, reminds me that I am old enough to remember the time when outdoor Grapes were by no means rare. Quality and quantity depended then, as now, largely on the time and skill of the cultivator; but weather was the determining factor of the quality of the crop. There were favourable and unfavourable seasons, with an occasional "vintage year," when Grapes ripened under the influence of an unusually sunny season. The memory is good of the pleasant things of childhood, and fruit is one of the very good things in the estimation of even the very young. Operations are remembered, though their purpose was not understood at the time. I remember a Grape Vine in those far-off days of over seventy years ago that was cultivated with all the care that a sympathetic gardener could give it. Some seasons brought good fruit; fewer, excellent; and occasionally there were no Grapes worth eating. This Vine was trained against a wall of south aspect, and over a slated roof on a trellis, perhaps 1 foot high. Unnecessary foliage was removed as required, and the bunches of the part covering the wall were thinned and furnished fruit for dessert, while the unthinned fruit from the [illegible] was used for making wine, which also varied in quality according to the season.—W. BOTTING HEMSLEY, V.M.H.

GRAPE MILLERS BURGUNDY.

MAY I add my experience of Grape Millers Burgundy to that of Mr. Bunyard in the interesting notes on outdoor Grapes, issue December 8, page 528? I brought cuttings with me from the Cambridge Botanic Garden seven years ago, and a year later planted one on the south side of my house, where it has grown well and never failed to produce and ripen a good crop of Grapes. I have found that the younger wood—be it a young rod from the base or the extension of the older ones—always bears the best fruit. This has led me to the opinion that it might be better to replace the old canes by young ones from the base in succession, so that in the space mine occupies no canes would be more than three years old. Apart from its fruiting qualities, its silvery grey foliage when young is very pleasing, and it colours well in autumn and so doubly justifies its existence. I planted at the same time and from the same source the "Cambridge Vine," the origin of which I do not know, but I believe Mr. Lynch procured it from Messrs. Bunyard some years ago. This I planted on a west wall, and although it makes stronger growth than Millers Burgundy, and has larger bunches and berries, it is only during an exceptionally warm autumn the fruit ripens. Perhaps on a south wall it would give better results.—E. J. ALLARD.

AN EXCELLENT CROP OF GRAPES IN AN AMATEUR'S VINERY.

MAGENTA MEMORIES.

IN his "Tulip Tittle-Tattle" which appeared in THE GARDEN recently, the Rev. Joseph Jacob wrote: "I would single out The International. It is included in a group of (to me) great charm, notwithstanding the reading of the label which runs, 'Flower Magenta.' *I am always inclined to fight and hit out when one hears and reads the indiscriminate vituperations poured upon this unlucky colour.*" I feel I should much like to shake hands with the author of this confession. It recalls a lesson in colour which I received some years ago while waiting one day to receive the exhibits of bouquets at a local flower show. One of the last to be received was sent in by a lady staying at "The Bury" (let us call her the Countess of Vallombrosa). The bouquet was composed of the richest-toned frilled Petunias, graduated from the most intense magenta in the centre of it to those that were nearly white round the edge. These were surrounded with Adiantum Farleyense, while from the centre of all and standing above the rest of the flowers there were three sprays of the deepest orange Montbretia. We tried to place that bouquet everywhere in the tent devoted to ladies' bouquets, but it killed the tints of the delicate Sweet Peas, positively screamed at the crimson Roses, and quarrelled violently with the purple Clematis. At length in desperation we placed it near the white bridal bouquets. It took the first prize, as it richly deserved, and in the afternoon "the Countess" appeared to receive it. She was a tall, dark, handsome woman wearing a costume of petunia-coloured voile, with a hat or toque of the same shade. The bodice of her gown was just relieved by a suspicion of tangerine ribbon, and in her hat there was a splash of rich tangerine velvet. She wore two superb Cattleya blossoms of pale magenta, with richly coloured lip suffused with orange. The dresses of the other ladies which had looked so bright until this superb subtropical beauty appeared now seemed to have faded until they resembled mother-of-pearl. Her presence dominated the tent as a queen, and she was perfectly well aware of it.—H. H. WARNER.

P.S.—This colour is very beautiful when associated with chestnut brown and terra-cotta, such as we get among the Chrysanthemums.—H. H. W.

ROSE HORACE VERNET.

THE article in the issue of November 3 on "Red Roses in 1917" attracted my attention. It brought to mind the old Rose Horace Vernet. I have twenty-five plants, all in a row, sheltered on three sides by a Privet hedge, and if any Rose is a Hybrid Tea "for want of a better name," this Rose in my experience is of that class. From the last day of June to October 20, when we had our first severe frost, we have been able to get every day from four or five to a dozen blooms for the house. It is the most persistent everblooming Rose I have in my garden.—THOMAS N. COOK, 189, *Congress Street, Boston, Mass.*

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SELECT VEGETABLES FOR 1918

A GUIDE TO THE INEXPERIENCED.

By E. Molyneux, V.M.H.

As a guide to the inexperienced I give a list of varieties of the various kinds of vegetables for next year. I need hardly say that in but few instances is there any "best" sort. Selection is purely a matter of personal opinion, according to circumstances.

Peas.—Early Giant (3 feet), Pilot (4 feet) and Pioneer (3 feet) are good for the first sowing. Of second-early or midseason varieties there is an abundant choice. It is from this sowing that the bulk of Peas are grown, especially by the amateur. For the special convenience of this section of cultivators, varieties that produce heavy crops at 3 feet to 4 feet high are especially valuable, on account of the difficulty of procuring supports, although it cannot be denied that the taller-growing varieties, when good, give heavier crops. Centenary (5 feet), Superlative (4 feet), Duke of Albany (still the most favoured variety in this section, 5 feet), Peerless (3 feet), Senator (3 feet, gives prodigious crops), King George (5 feet), Stourbridge Marrow (a superb variety, 5 feet) and New Model (4 feet) are all good. No garden should be without Quite Content where 6-foot supports can be obtained. This is one of the heaviest cropping Peas we have. Another point in its favour is that it is so continuous in bearing; so many lateral growths are made. Carter's Daisy, another second-early from the same firm, height 2 feet 6 inches, crops over a long period. Alderman (5 feet) cannot be omitted from this section; neither can Gradus (4 feet). The late section is valuable, continuing as they do to provide pods till quite the end of October—in a limited degree, of course. Selected Gladstone (4 feet) is excellent. Autocrat (4 feet) is sturdy in growth, producing an abundant supply of large, well-filled pods of exceptionally fine Peas. Latest of All (4 feet), Late Queen (3½ feet), New Distinction (3½ feet) and Latest Giant (4 feet) are all good. Ne Plus Ultra is still a good late variety of high-class quality. A variety I have grown for many years, and which is immune from mildew, of excellent quality, and a heavy cropper, with short pods, is Goldfinder, 6 feet; the height it grows is all against its being more popular. Still, apart from that, it is a fine late or general Pea.

PEA SUTTON'S EARLY GIANT, FOR FIRST SOWING.

Broad Beans.—Mammoth Longpod and Giant Windsor are still reliable varieties.

French Beans.—Superlative, for forcing, is good. For general outside cropping, Masterpiece and Canadian Wonder provide all that is required.

Runner Beans.—Prizewinner, A 1 and Scarlet Emperor produce tender pods over 1 foot long, and are free bearing. I need hardly say that cultivation has much to do with success in this vegetable, as in others.

Climbing French Beans are useful, giving quantities of pods both under glass and in the open. Tender and True is valuable.

Beet.—Blood Red, Black and Green Top provide all that is needed in the Long section; indeed, one variety is ample, with one sort of Globe for an early crop.

Broccoli.—Here we have much choice. Michaelmas White, Autumn Protecting, Winter Mammoth, Christmas White, Snow's Winter White, Late Queen and Model are all satisfactory.

Brussels Sprouts.—Exhibition (tall-growing) and Matchless (dwarf) cannot well be excelled.

Kale.—A 1 Favourite, Asparagus and Thousand-headed give abundant supplies over a long season.

Cabbages.—In these we have an immense number from which to choose. For spring sowing, Earliest and Tender and True are desirable; for the general late summer sowings, Harbinger, Ellam's, April and Flower of Spring provide all that is necessary.

Savoys.—Earliest of All, Perfection and Ormskirk, with Late Drumhead, give a succession.

Cauliflowers.—This is an important crop all the year round where suitable accommodation is available. First Crop, sown in January, produces heads in quick time. Magnum Bonum is still a standard variety; so is Early Giant, succeeded by Autumn Giant, which is still indispensable.

Carrots.—These play an exceptionally important part at the present time as food for the people; immense quantities can be produced in a limited space. Champion Scarlet Horn, Early Gem and Model are good for an early crop, succeeded by New Red Intermediate, Favourite and Long Red or Altrincham.

Celery has many more admirers now that its value as a vegetable is more appreciated. Aldenham Pink and White are superb varieties, with Solid White and Sulham Pink for variety.

Cucumbers.—Every Day, Delicacy and Improved Telegraph are high quality, robust-growing varieties.

Lettuces.—In these we have abundant choice. Among Cabbage varieties, Favourite, Ideal, Golden Ball, Matchless and All the Year Round are good. In Cos varieties, Peerless, Black-seeded Bath, Superb White, Champion Brown and Mammoth White are desirable.

Leeks.—Prizetaker for large growth and Improved Musselburgh for an ordinary crop provide all that is required.

Vegetable Marrows.—Table Dainty, Tender and True, Long White, Moore's Cream and Pen-y-byd are excellent, with White and Green Bush for field culture.

Onions.—The cultivation of Onions has increased enormously in England during the last two years, since imports have been limited. For general use, Brown Globe, Main Crop, Bedfordshire Champion and James' Long-keeping are desirable, with Ailsa Craig for extra large bulbs.

Parsnips.—Tender and True, Hollow Crown, and Student are all excellent for special and maincrop culture.

Spinach.—Long-standing Round and Prickly, with Victoria, are all that is necessary to keep up a supply all the year round.

Tomatoes.—Of red varieties there is great choice. The newer Bide's Recruit is an exceedingly heavy cropper, with medium-sized and smooth fruit. Sunrise, Main Crop, Up-to-Date and Perfection are all good, with Peachblow for a distinction in flavour. Yellow varieties to be noted are Golden Perfection and Golden Jubilee.

Turnips.—Early Snowball cannot easily be improved upon for a general crop, with White and Red Milan for the earliest supply. All the Year Round, Green-top White, Red Globe and Golden Ball are good maincrop sorts.

Potatoes.—Now that the varieties are so numerous, it is difficult to give a list of the best. All I can do is to suggest varieties for general use, beginning with Midlothian Early, Dunnottar Castle, May Queen, Ninetyfold, Eclipse, Sharpe's Express and New Colonist, following with Epicure, Warwick Castle, Windsor Castle, New Guardian and Snowdrop. Of maincrop varieties, Gordon Castle, King Edward VII., Iron Duke, Prosperity, Great Scot and Up-to-Date are excellent. Other good sorts are British Queen, Arran Chief and Main Crop.

EARLY PEAS

THE first dish of Green Peas is never too early, either for the gardener or for those whom it is his pleasure to serve. All growers having previous experience to guide them agree that it is not every soil that allows seed of the more expensive varieties to be sown, without grave risk of losing the seed through decay, until at least the second week in March; and those having a heavy clay or badly drained soil to deal with only make sowings at an earlier date on the chance that an unusually mild winter may favour the sowing. In fact, many years' cultivation of a very light soil goes to prove that even in this the very earliest sowing of Peas in the open garden must always be regarded in the light of a lottery, wherein the prizes are far outnumbered by the blanks; and in these days, when dealing with such an important crop, and seed only to be had at greatly increased prices, those whose duty it is to provide the early dish of Peas should think twice before entrusting any but the very hardy round-seeded varieties in the open garden until the near approach of real spring weather. But as it is generally admitted that the table quality of all varieties in this section compares most unfavourably with the wrinkled or Marrowfat varieties, where circumstances are favourable and Peas of first-class quality of the greatest importance, advantage should be taken of the opportunity to get the plants well forward by sowing under glass many weeks before it would be safe to sow in the open garden. The plan invariably followed by a former generation of gardeners was to sow seed upon inverted turf laid out in shallow boxes, and I have had quite good results from such a course; but we have long since given up the boxes and now sow all our early Peas in pots. The 4-inch or "60" pot is the one we generally use, this being ample for eight or nine seeds. By doing so we find germination is better and more even than when boxes were used, and, when the time for transplanting arrives, this is done in less time, with absolutely no loss or damage to the roots, therefore no check to growth.

One hundred pots of the size stated take up very little room in a cold or unheated frame, and if 1 foot is allowed between each two potfuls of plants at the time of planting, it will be seen that this number is sufficient to make quite a good row. Although for a few weeks following the planting the appearance of the row may be somewhat gappy, a few weeks of nice growing weather soon alters the appearance of this, and, if well cared for, such a row may be expected to maintain a supply over a considerable period. None but very clean pots should be used, and, instead of the usual crocks, we always use the rough material which fails to pass through a half-inch mesh sieve when sifting the residue from the previous summer's hotbed.

Equal parts of the sifted material and ordinary garden soil make up the compost, and after filling the pots to within 2 inches of the top with this, pressing it fairly firm with an empty pot, the surface is covered with a layer of finely sifted ashes from the garden smother. Upon this the number of seeds stated above are sown at equal distances apart, and providing the compost is of a slightly adhesive nature, no water is applied until the seed germinates.

Ventilation is given on all suitable occasions, and whenever water is needed this is given very early in the morning and always in a tepid state. As growth proceeds, the soil between the plants is kept constantly stirred with a pointed stick, and on bright days the little plants are treated to a shower bath through an Abol or similar syringe. Planting out is usually done during the last week in March, and, as soon as the row is complete, plenty of nice bushy sticks are placed on each side, and during very cold nights or windy days further protection is afforded by the free use of straw or Bracken. It is only during a very dry April that water is needed until the plants show flower, but when this stage is reached each row receives a thorough soaking of tepid manure water, after which a good mulch of long strawy manure is placed on each side of the row.

If earliness is the chief object sought after, selection should be confined to one of the many valuable dwarfs or semi-dwarfs. Among these, Peter Pan, Little Marvel, Laxtonian, Clibran's Masterpiece, Supreme and English Wonder are reliable; but where the demands are heavy and space limited, preference should be given to the first-earlies found in all seed lists, growing from 2½ feet to 4 feet high.

F. R. CASTLE.

In Praise of Parsley

THE associations of this delightful and useful herb are to the classic mind a source of infailing interest, for both Virgil and Horace make mention of it, and as long ago as 570 years before Christ it was used for garlands and was the trophy or prize won by the victor in the Nemean Games. It is, we all know (who feel the weekly cheer brought by THE GARDEN in these dreary, anxious days), a hardy biennial, a native of Sardinia, and was introduced into this dear old England of ours about the middle of the sixteenth century. There are three varieties of it, two of which are well known and commonly used as pot-herbs and for garnishing (and surely it is the garnish of garnishes), viz., the common or plain-leaved, and the Hamburg Large or Carrot-rooted, which last is cultivated only for its roots, which are occasionally used like young Carrots. The curled variety is by far the most useful, and from its beautiful foliage cannot be mistaken for the Fools' Parsley, a poisonous plant somewhat resembling the plain-leaved variety. The cultivation, as all gardeners know far better than I can tell them, is to sow, usually in the spring, in shallow drills about 1 foot apart, or in single rows along the borders of the kitchen garden. There are many good sorts worth growing, Myatt's Garnishing being one of them, besides Double Curled, Fern-leaved, Sutton's Dwarf Perfection (which was given an award of merit by the Royal Horticultural Society in August, 1908), and Hardy Winter Matchless. Sutton's Imperial Curled is like a frond of a beautiful Fern. The Hamburg or Carrot-rooted, previousiy mentioned, requires a light soil such as would suit the Carrot, and one may safely give it the same treatment. In winter the demand for Parsley is often great and the supply small; it is therefore well to cover some plants with hand-glasses for winter use so as not to be without it. I may here mention that our Allies and friends of La Belle France have a great penchant for fried Parsley, and in midwinter Parsley often fetches a high price in Paris for this purpose. Hares and rabbits also find it a very choice and toothsome morsel, and will travel a long way to get it. If the garden is near a wood or at all exposed, they will come and rob it of it all, as gardeners know too well. On the other hand, should one ever by chance want to entice rabbits into a meadow, all one need do is to plant some Parsley. What would boiled chicken or the savoury omelet or boiled rabbit be without this useful herb?

H. C. P.

A REVIEW OF THE VEGETABLE CROPS

AT this time of year, when we are less occupied in actual gardening operations and cropping schemes, a review of the past season's work and results may possibly conduce to a sagacious anticipation of the spring and summer to come. The two things which stand out prominently in my mind this year are a good Tomato yield and an indifferent Onion crop (so far as concerns those sown in the open). I was interested in reading Mr. Beckett's

PEA CARTER'S DAISY.

notes the other week on Onions, and can heartily endorse all he says. It appears to me that wherever trees abound or the vegetable quarters are enclosed, Onions and Carrots suffer more or less from the ravages of the fly. From twelve rows of Onions sown in March I harvested scarcely a bushel; whereas six rows transplanted from boxes yielded 95 per cent. of magnificent bulbs. Those sown outdoors were given a specially prepared site and received several dustings of soot and two applications of paraffin and sand; whereas the transplanted Onions were put on just a handy piece of ground which had been dug and manured in the ordinary way. I give one or two cropping suggestions as the result of experience: Two rows of dwarf Pea Sherwood, about 4 feet apart, with Spinach between, were sown at the same time (late March). When the Spinach was cleared, a Celery trench was prepared and Cabbage Lettuce planted out on the ridges, the place of the Peas eventually being occupied by Kale, which affords some slight protection to the Celery.

On another plot early Potatoes (Sir John Llewelyn) were put 2½ feet apart on March 29, and Cauliflower plants were subsequently put out between the rows of Potatoes. The tubers were dug from July 1 onwards, and Sprouting Broccoli took their place as they were lifted, thus securing three crops from the same site.

After Shallots were cleared off (mid-July) they were followed by Leeks, which were sown under glass in February and transplanted to a cold frame; in both cases the crops were good to look upon and very good to eat.

In the issue of March 24 is an article on Runner Beans. The picture accompanying this article induced me to follow the advice given. "Quoth the raven, 'Nevermore!'" The only sense in which my crop were Runner Beans was that they "ran" to seed! I like to sow outdoors early in May in a good trench. M. E. GREEN.

Selection of Seed Potatoes

IT is not to be expected that we shall experience a shortage of seed Potatoes for planting in the coming year such as was the case last spring. At the same time, readers would be well advised to procure seed as early as possible. The tubers should be carefully sprouted, and sprouting should be started in January.

First-Earlies.—Place the tubers "crown end" uppermost in shallow boxes or trays or on shelves one layer deep in a frost-proof, cool place, where they get as much light and air as possible. Tubers so "boxed" develop two or three strong green sprouts instead of a large number of weakly shoots, which they produce if they are pitted or kept in the dark. Sets (seed) so treated need not be cut at planting-time, nor need any of their sprouts be removed.

Second-Early, Maincrop and Other Varieties. The seed tubers of these varieties need not be so large as in the case of the first-earlies. Tubers about the size of a hen's egg and of not less than 2oz. in weight will make good seed, though, if required, larger tubers may also be used. Wherever it is possible the seed should be placed two or three layers deep in boxes, and the boxes stored in a well-lit, airy, but frost-proof place, such as a shed, outhouse, or disused room of a dwelling-house.

SOME FLOWERS OF WINTER.—I

THOUGHTS AND NOTES ABOUT THE WINTER JASMINE.

"NOW is the winter of our discontent," when gardening folk who do not boast of even a cold greenhouse wherein to grow what Pliny calls *hortensii bulbi* wish they had one to potter about in; while Mr. Woodall—whose garden knows no whirring, withering, whistling "North-Easter"—makes us sigh for "the Palms and temples of the South" by sending to THE GARDEN glowing descriptions of the plants that flourish so amazingly in his golden clime.

THE WINTER JASMINE.

(*From a drawing by Mrs. Arthur Goodwin.*)

One is reminded by this of some verses that old Charles Cotton, "hearty, cheerful Mr. Cotton," as Charles Lamb calls him, addressed to his bosom companion Izaak Walton; for in them he complains that the "bleak winds" and "great rains . . . of this dead quarter of the year" had made life so monotonous (even Pescatore gets tired of a little library of books, all filled with fly-leaves!) that he is thankful that his friend is not paying him a visit, and goes on to say:

"In this estate, I say, it is
Some comfort to us to suppose,
That in a better clime than this
You, our dear friend, have more repose."

Measured by the standard of richness of the floral wealth of Riviera gardens at this period of the year, it is true that most English gardens have not much to show; but it would be difficult to gather together a more delectable collection of plants than those that now assist Robin Redbreast to cheer the ungenial days.

If a plebiscite were taken of readers of THE GARDEN as to which was the most popular hardy flower of winter, what plant would receive the most votes? I think I should plump for the Winter Jasmine myself, though there would be a vast number of eligible candidates to select from. But Jasminum nudiflorum ("naked" may be reminiscent of Lady Godiva's heroic exploit, but it is too shivery an adjective for these days!) is such a uniformly joyous plant; from November, when sluggish winter returns (*bruma recurrit iners*, as Horace puts it), until March barely a day passes when its leafless branches are not alight with flowers—a bush all sunshine—graceful from very gladness—beautiful because bright.

It was one of those plants that the late Dean Hole insisted upon growing wherever he resided, and it will no doubt give pleasure to many readers if I quote the inimitable words he wrote in 1881 about the plant which grew on his house at Caunton Manor:

"Close by my door stands a hero, so handsome and so brave, that the face smiles and the heart is refreshed to look on him. While the army to which he belongs is in full retreat, or under canvas, he remains, in his bright uniform of green and gold, defiant. While the other ships of the fleet are driven with bare poles to and fro by the winds, he walks the water like a thing of life, full sail, 'dressed' with all his flags and pennants, and with joyful music on deck. He is twenty feet high, and his name is Jasmine. What a gracious gift in our dreary season of decay, like a child's laugh in a dull company, or an examiner's nod when one is 'up for degree'! What a fountain of golden glory to make our desert smile! No home should be without these flowers—which

Twinkle to the wintry moon
And cheer the ungenial day—

without Jasminum nudiflorum on its walls.

"It comes to us so silently, unexpectedly, unostentatiously in its beauty, like true charity. It is the brother born for adversity, who enters unheard the darkened room, and puts his hand upon the shoulder when the head is bowed down by sorrow, and says, Let me share and help."

Verily, the facile pen of the noble old Dean might have penned these words but yesterday, so apt are they in these days when sorrow rules the world. It was indeed a red-letter day for British gardens when Robert Fortune sent home this fine plant from China in 1844, and yet I suppose its arrival was not heralded with the praise that was showered upon that much inferior plant, Jasminum primulinum; and THE GARDEN was non-existent in those days, so it could not be honoured with a coloured plate as was the latter. However, as Thackeray somewhere observes, "novelty has charms that our minds can hardly withstand. The most valuable things, if they have for a long while appeared among us, do not make any impression as they are good, but give us a distaste as they are old. But when the influence of this fantastical humour is over, the same men or things will come to be admired again,

by a happy return of our good taste." Hence the Winter Jasmine is once more to the fore, while the Primrose-flowered Jasmine has retired into obscurity—in my case a sharp frost despatched it to the spirit world of plants very soon after I bought it.

There is no better way of growing the Winter Jasmine than in a cold greenhouse, for there the flowers are much larger and are not spoilt by the alternate rain, frost and snow of our winters. The plant requires a good-sized pot, and, after flowering, the growths should be well thinned out; then it may be plunged all the summer in a fairly cool situation, the only attention needed being an occasional dose of liquid manure and some water in time of drought. Repotting should always be done immediately after the plant has finished flowering. Those who have no cold greenhouse should train it horizontally along some sticks 2 feet from the ground, so that some lights or mats can be placed over it early in November. By this means the flowers may be kept beautifully clean, and they will continue to

"Open their golden petals
To woo the fitful sun"

for at least three months.

I always think it a pity to train this plant up stiffly to a wall, for it is of naturally drooping habit; indeed, it is never more beautiful in a mild winter than when it is grown on a sloping bank or tumbling over a boulder in the rock garden, making a cascade of yellow blossoms that glitter in the winter sunlight. Against a wall, especially one with protecting eaves, it is true that the flowers are the better preserved from bad weather, but only the main growths should be fastened to the wall, the side shoots being allowed to assume their gracefully drooping habit. Sometimes it looks very charming when planted with some of the climbing Cotoneasters or with the Fire Thorn (Cratægus Pyracantha Lælandi), but unless carefully tended they will become locked in an embrace that will in no way resemble that of true lovers. Perhaps the loveliest of all ways of growing it is to group it with Silver Birches—not actually trained up their trunks, but planted around them, so that when the Jasmine is in flower the silvery stems rise from among a mantle of glistening yellow. No position and no atmosphere appear too bad for the plant to thrive in, for I have seen it in some of those mean and dirty streets of the "Black Country," where it sees "nought lovely but the sky and stars," bravely flowering amid soot and grime. For house decoration there is nothing more delightful and nothing more cheerful; it looks charming with the tinted leaves of Berberis Aquifolium, but best of all, perhaps, by itself or with just a sprig or two of the elegant polished leafage of the Mexican Orange Flower (Choisya ternata). To have it in perfection, cut the sprays about a foot long before the flower-buds expand. Place them in a deep vase with plenty of water in which are a few lumps of charcoal, and every bud will come out larger, finer and of purer colouring than those cut out of doors. When the buds are half out, cut off a piece of the stem to give them a fresh start, and they will last for a fortnight. It is as well to remark that the flowers do not open well under this method of treatment *where gas is burnt*. As to the mode of increasing the plant, nothing could be easier, as it strikes readily from cuttings put in in March; moreover, the drooping shoots frequently layer themselves where they touch the soil. The Jasmine is said to be the emblem of amiability, though this was intended for our older friend the White Jasmine, whose "elegant sweets" and "bright profusion of her scattered stars" Cowper thought so fascinating.

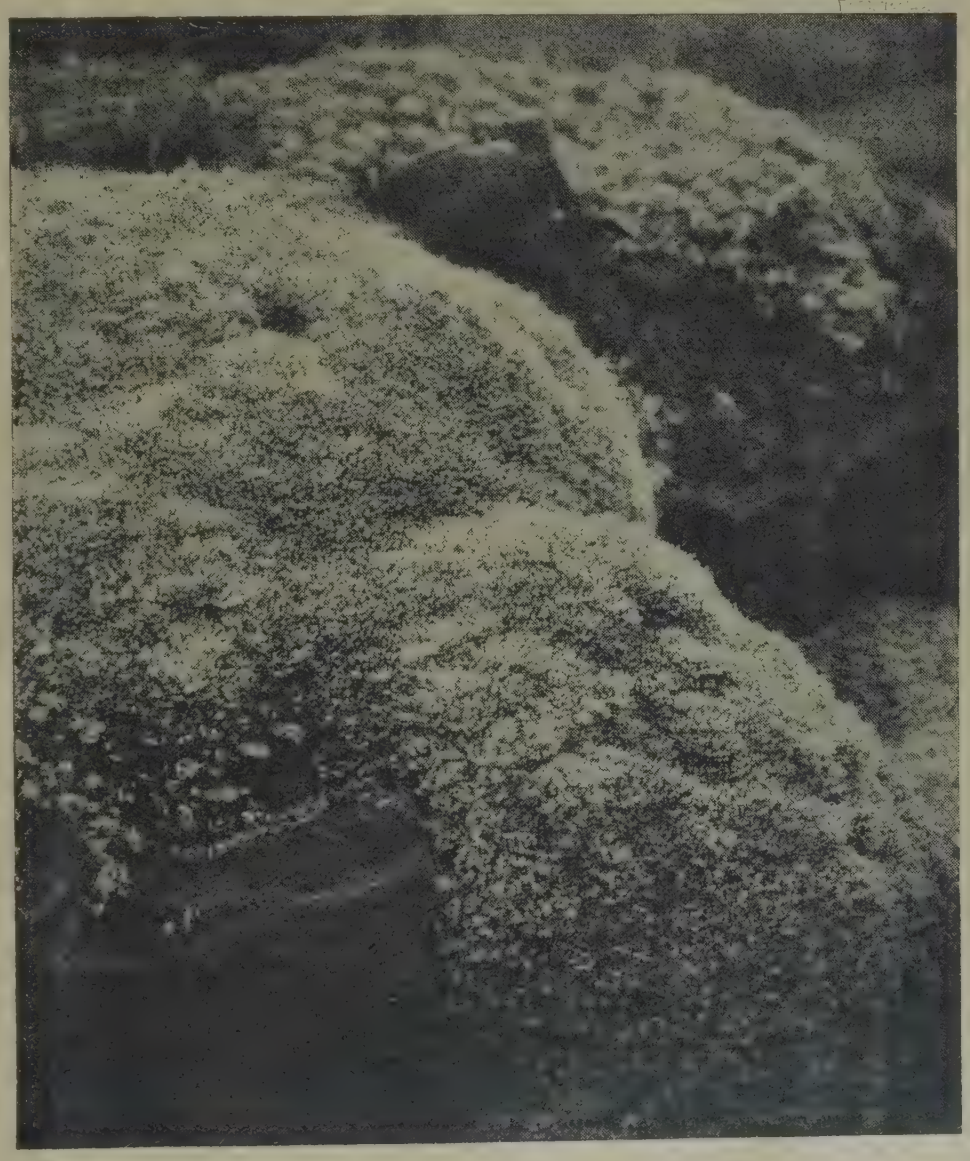
Please, then, dear reader, let me stretch a point and say that the Winter Jasmine, too, is of a sweet disposition, for when I am hurrying off to business these dark mornings and see it smiling at me in the garden I feel that it is helping me in my day's work by (as Shakespeare says)

"Driving back shadows over low'ring hills."

Kidderminster. ARTHUR R. GOODWIN.

TWO WINTER-FLOWERING HONEYSUCKLES

ALTHOUGH the fragrance of the Honeysuckle is usually associated with the sweltering days of summer, there are two species that naturally flower in January. These are known under the names of Lonicera fragrantissima and L. Standishii. Both have creamy white flowers, which, although they do not create any startling effect in the garden, are highly appreciated at this season for their delicious fragrance. These Honeysuckles form neat bushes about 6 feet in height and as much in diameter, are perfectly hardy, at least in the London district, and will thrive in any ordinarily good garden soil that suits the better-known summer-flowering kinds. Although the fragrance of the blossoms is quite noticeable in



MOSSY SAXIFRAGES COVERED WITH HOAR FROST.

THE ROCK GARDEN IN WINTER

ONE of the great charms of the rock garden is that at the most unlikely times and during the most inclement weather you may come upon some brave little plant showing bloom when it ought to be sound asleep for the winter. On December 6 I was delighted to find Oxalis enneaphylla with three blooms on it, looking so cheery and bright in spite of the fact that its foliage was withered and gone long ago. It had survived 17° of frost three days before, and looked none the worse for it. On the top of a low mound near by was Polygala Chamæbuxus, with quite a good show of its purple-tipped yellow flowers among its evergreen foliage. Just underneath there was quite a little show of Primulas Double White, Double Lavender, and single purples with their cheery bright eyes. On the small moraine was a plant of Aster alpinus showing four bloom-heads on a single 3-inch stem, one of the blooms being fully open. On the top of an adjoining mound of soil of a sandy mixture there were, until the day before the frost, two stems of Schizostylis coccinea with their bright cherry red blooms open; but they were removed to the house for protection. This does not exhaust the interest of this little garden, for I can now estimate the amount of bloom there is to be on Saxifrages apiculata, Burseriana, Elizabethæ and sancta, which promise an early flowering, seeing that they slept so soundly during our unusually cold October. The close Mossy Saxifrages also have, now that beautiful green tint which makes them so attractive all the winter when so many plants are sere and grey. Truly from January till December the rock plants are a delight, the more so because they vary in their requirements, and these you have the pleasure of learning and satisfying as you study them during the year. PERTH.

COMMENTS ON "THE GARDEN"

I READ with great delight in the issue of December 8 the article on "The Herbaceous Border," by Clarence Elliott, having long realised its truths and practised its teaching. My mother never permitted herbaceous borders to be "tidied up" nor cut down for the winter (although the most orderly among women). She considered the old summer growths shielded the plants from frost. They were not removed till spring growth appeared (but there was an annual battle with the gardener about it). *I* do not permit it either, for æsthetic reasons also. What is more lovely in its season, for example, than the soft "chinchilla" seed-heads of Golden Rod and the rich brown Tansy tops among Michaelmas Daisies?

"W. G.'s" "Ways of Using Celery" is full of useful suggestions. Stewed Celery is a favourite dish here, baked Celery not unknown, and Celery stuffing for fowls long sacred to our Christmas feast; but *fried* Celery is new and enticing. The value of the green outer leaves and stems for flavouring soups and stews I learned long ago in France. May I add Celery *sauce* to the foregoing? It is good with many meats, and can be eaten hot or cold.

"Rotation or Repetition of Crops?"—My practical amateur "small garden" experience says: "Rotation where possible and repetition where necessary, but in the latter case more care and more manure required."

"Planting an Apple Orchard" interested me immensely, as my orchard was planted in 1914, with standards 25 feet apart, exactly on the plan depicted, and the avenues it makes in every direction are already pleasant. Bushes and cordons are being added round its outer edges, the centre being reserved for tethered goats and for hay, and for fowls to roam in.

The Japanese garden photographs are fascinating. To my mind Japanese gardens are far more artistic than English rock gardens (although as artificial). The latter I generally regard as an offence against good taste, being a kind of theatrical pretence, and more objectionable than "bedding" borders, which are frankly formal.

The Rev. G. H. Engleheart's note in "Columns for the Curious" is extremely interesting. His interpretation of "Jerusalem" Artichoke and other plants seems to me far more probable than the "Girasole" one. Pulmonaria I first knew as "Spotted Sage," then as "Soldiers and Sailors"—in pre-khaki times—on account of its red and blue blossoms; but "Joseph and Mary" is delightful. How often the children hand down to each other old customs and folklore forgotten by "grown-ups"!

ANNE AMATEUR.

THE CULTURE OF FRUIT TREES

ON MANURING.

THE study of the requirements of fruit trees as to manure has hardly received the attention it deserves in most gardens. We generally expect our trees to pick up such leavings as may exist from the vegetable quarters, and to look after themselves in this respect. Those who give some thought to the trees' requirements are often content with an occasional dressing of farmyard manure, which is not a complete food for them. Potash, phosphate and nitrogen are needed, and for their efficient use they must be based upon a sufficiency of lime in the soil.

It is difficult to over-estimate the importance of lime as a basis for all successful fruit culture; the largest type at editorial disposal could not over-emphasise its prominent place in all schemes of rational manuring. The present time is seasonable for its application, and if 8oz. per square yard is put on, or 1lb. of chalk to the same area, if this is more readily obtainable, the soil will be in a position to utilise the later applications of manure. This being done, the question of potash may be considered. The usual source of this manure being cut off, we have to look around for a substitute, the only generally available one being wood-ash. The ashes from wood fires are most valuable, and should be stored in a dry place; and all prunings or other useless wood should be burned and added to the store, great care being taken to keep it dry, as the salt is very soluble and washes out very quickly. This is then sprinkled on the ground after the lime has been applied, and it should be put on before February. As to how much, it is difficult to say exactly, but there will be little danger of applying too much, as in most cases the quantity available will probably be all too short. A good handful per square yard may be mentioned as an approximate measure. Upon an adequate supply of potash depends the flavour and sweetness of fruits, and it is probable that many of the anæmic fruits upon which we are often called to advise are lacking this essential material. In March it is necessary to add phosphate, upon which the fruitfulness of our trees depends. How many cases of so-called infertile trees may be due to the absence of phosphate it is impossible to guess, but I should like to be assured of its presence in all cases before accepting the records of "self sterility" which have been so much in evidence in past years. Superphosphate, though difficult to get, is still obtainable, and 2oz. for each bush fruit, such as Currant or Gooseberry, increased according to the size of the larger Pears and Apples, will be a sufficient dose. Peaches and Nectarines on walls should especially be remembered, and a tree covering 20 feet or so should have 2lb. equally spread on the border. This phosphatic treatment should be an annual practice.

So far the inorganic manures have been recommended, but emphasis is now being laid on the value of the organic manures or those made by animal life. These have many advantages, one being their slower action, and another, that they are often in a form which improves the mechanical condition of the soil. There are many waste products in many houses which are burned, and thus wasted, which would be invaluable at the roots of our fruit trees.

This is no new idea; in fact, it is a harking back to an old practice. Sir Hugh Plat, in his "Floræs Paradise," published in 1608, gave the following advice: "Dogs and cats applied to the roots of trees before the sap rises have recovered many old decaying trees; shred them." I would not advise, even in the important matter of food production, that the readers of THE GARDEN should start to shred their domestic pets, but fur waste, feathers, old wool rugs—if any such relics of Victorian days still persist—may be profitably cast as an offering to Vertumnus. These can be dug in at any time during the winter, and will greatly benefit all kinds of fruit trees.

Another waste product, calcium carbide from acetylene plants, will also take the place of lime, and if it be allowed to weather in a heap for a month or two before using, no danger need be feared. In my own garden it has been my only source of lime for several years. We have now provided all the important elements which are likely to be lacking in the soil, and there remains but one word to add, as to water. It is not always realised that, manure as we may, if sufficient water is not present we cannot expect to get value from our additions. The present wet season has taught me many lessons as to the need for water on a dryish soil.

Opportunely to the moment comes the Long Ashton Report emphasising this point, and the Woburn Reports showed the remarkable increase in growth caused by the addition of peat, a water-retaining substance, even in the clay at that station. In dry soils leaf-mould is a valuable addition, and when one sees, as one so often does, the water-starved Pears and Peaches on walls, one realises that the point of a sufficient water supply requires emphasis.

These hurried notes cannot do more than indicate a few outstanding points, and those who wish to go deeper into the subject should purchase the valuable little book by the late H. H. Cousins, entitled "The Chemistry of the Garden" (Macmillan). They will then realise my indebtedness to him for the many points of this article, and obtain a book which every gardener should have on his shelves.

E. A. BUNYARD.

BOOKS

Rhododendrons.*—The passing of the glass-house garden has been hastened considerably in recent years by the introduction from Western China of a large number of good garden plants which are hardy in the British Isles. By far the most valuable of these are the Rhododendrons, of which over 200 species are known to be growing in gardens here. It was a piece of good fortune when the late Mr. James Veitch decided to send a collector to China for some of the plants a knowledge of which had come to us through the dried specimens and accounts received from French missionaries, Dr. Henry and others. Mr. E. H. Wilson's first haul from the mountains of Yunnan turned out very well for horticulture. Of Rhododendrons alone he sent to Messrs. Veitch no fewer than sixty-three species. They were grown in the Coombe Wood Nursery, where most of them proved to be hardy. In addition to these a great many more have since been introduced by Mr. G. Forrest and other collectors, and there are said to be plenty more in the wild and rugged regions of China-Tibet, a continuation of the Himalayas, where Sir Joseph Hooker discovered the beautiful species which for the last fifty years or so have been the glory of many British and Irish gardens.

Rhododendrons are now far and away the most valuable hardy shrubs we have. Breeders as well as growers are busily occupied in their cultivation and improvement, so that, before many years have passed the genus will be as conspicuous a feature in gardens as the Rose is. Hitherto Rhododendrons have not reached that high position among popular garden plants to which they are entitled. Only one, the ubiquitous R. ponticum, has really caught on, and excellent plant as it is in many ways, there are many others that are at least its equal. Ignorance of their beauty and good nature is largely to blame for their neglect, though several of our nurserymen who specialise in Rhododendrons make praiseworthy efforts to remove this ignorance and prejudice. The soil question, which also tells against them, is of little practical account, for it is easy to provide a suitable soil in places where the natural soil is not to their liking. This is done for Roses and other plants which have no greater value than Rhododendrons.

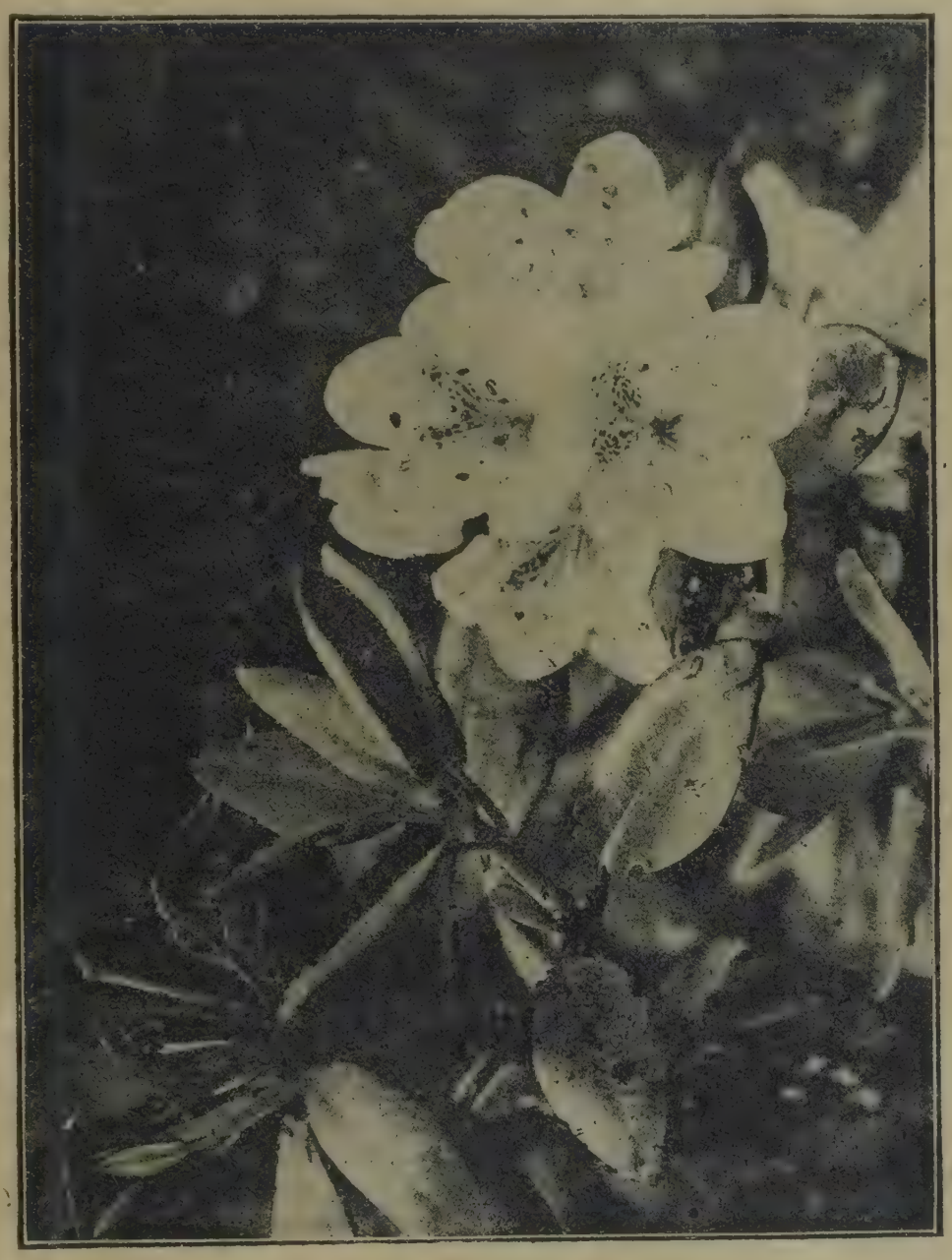
It is a remarkable fact that Rhododendrons have been neglected by the scribes. Hitherto the only book devoted to them is the small popular treatise by Mr. W. Watson, published about five years ago by Messrs. Jack. We have now, however, a really sumptuous work about them from Mr. Millais, the author of several big illustrated works on natural history subjects, and an enthusiastic collector and cultivator of Rhododendrons in his garden in Sussex. He has visited nearly all the best gardens in the British Isles where Rhododendrons are grown, and he has consulted all the writings which afforded information,

* "Rhododendrons and the Various Hybrids," by J. G. Millais. Published by Longmans, Green and Co.; price £8 8s.

botanical as well as horticultural, concerning the plants. His book is therefore a treatise and compilation of just the right kind to assist gardeners, amateur and professional, to a full knowledge of Rhododendrons, their distinctive characters, cultural requirements, garden history and decorative qualities. It also contains much interesting information, gleaned from the writings of collectors such as Hooker, Wilson, Forrest and Cooper, on the place in Nature occupied by Rhododendrons. This is one of the most valuable chapters in the book. What Heaths are on the highlands of Europe, Rhododendrons are in the great range of mountains which extend from Burma to Tibet.

The number of species described by botanists is now well on to 450. Of these about one-half are known to be in cultivation and are described in Mr. Millais' work. In addition to these all the known hybrids are described, and a list of the best of the popular sorts, known as Caucasicum Catawbiense hybrids, is given. Many of them are represented by either coloured figures or photographic illustrations, all prepared from cultivated plants. The great collections in Cornwall naturally receive attention, that of Mr. John Charles Williams at Caerhays, perhaps the richest in the country, being prominently noticed. Sir Edmund Loder's collection at Leonardslee, also a very large one, remarkable for the great breadths of some of the species and hybrids it contains, is also dealt with at length.

The book is very large—16 inches by 12 inches—and it weighs 10½lb. For practical purposes and to bring it within the means of gardeners, the letterpress might be reset and some of the illustrations incorporated in a smaller volume, which we feel certain would have a large sale, and thus help to spread a knowledge of Rhododendrons, which is very desirable in view of their capabilities as garden plants.



RHODODENDRON OREOTREPHES, DISCOVERED BY GEORGE FORREST IN GRASSY MOUNTAIN SLOPES OF WESTERN CHINA.

(From "Rhododendrons and the Various Hybrids.")

COLUMNS FOR THE CURIOUS

JERUSALEM ARTICHOKES. — Mr. Engleheart's exceedingly interesting note on page 535 of THE GARDEN about how the word "Jerusalem" came to be part of the popular name of certain plants has been to me just as if, supposing I were a dog, he had said, "Rat, good dog, get it out." The results of my scratchings among old herbals and other books are as follow: (1) If we may trust Parkinson, the word "Jerusalem" came into use between the years 1629 and 1640, because in his "Paradisus" (1629) he calls the plant the Potato of Canada (Battatas de Canada), whereas in his "Theatrum" (1640) one of the two English names given is Hierusalem Artichoke. In the letterpress nothing is said about it. It simply appears as one of the aliases over a picture of the plant, which, curiously enough, is here portrayed in full flower. (2) W. Cole, in his "Adam in Eden, or The Paradise of Plants," published in 1657, makes a statement in Chapter CCLXIX. which supports Mr. Engleheart's contention that "Jerusalem" was a convenient and delightfully vague epithet to apply to anything foreign, a kind of blessed word like Mesopotamia, for the unlearned soothing and satisfying in one. Cole says "it will not be amisse to tell you that the last came from Canada and not from Jerusalem, notwithstanding some ignorant people that have them growing in their Gardens with us, call them Artichocks of Jerusalem." In 1664 Stephen Blake, in his "Compleat Gardeners' Practice," gives the culture of Jerusalem-Artichoaks without any comment on the name, which, as he frequently does in other cases, goes to prove its very general use at and before this date. (3) No less an authority than Georges Gibault, in his "Histoire des Légumes" (1912), says, on page 289, "Jerusalem Artichoke, Artichaut de Jérusalem, est une corruption de l'italien Girasole (Tournesol ou Soleil)." (4) I have always liked Christmas carols, and we are going to sing some in our church on the evening of December 23, when a collection will be made for the children of blinded soldiers. I believe the influence of the Crusades and the mystery plays was a great factor in the composition of the older ones. One of the most striking examples is, "I saw three ships go sailing by." So hazy were the mediæval ideas about Jerusalem that it was generally thought among the less educated that Jerusalem was on the sea, and that anyone could sail there. Still, Jerusalem was known because of its sacred associations, but it was little more than a name. Query.—The Jerusalem Artichoke did not appear in England until 1617, so it is generally supposed. Now, was "Jerusalem" a term or word that was then applied to anything foreign, about which little was known? Taking Cole as my guide, I should say "Yes," but then I am not up in these matters and so I beg Mr. Engleheart, or someone who is, to enlighten us. Prior to some extent backs up Cole. Everything seems to turn upon whether the use of "Jerusalem" as a word signifying something foreign and foggy was still current coin, or whether it was obsolete in the first half of the seventeenth century.—JOSEPH JACOB.

CODLINS AND OTHER MATTERS.—The question as to what a Codlin is or was should not be difficult to answer. Codlins were half-grown soft Apples used in summer cookery, coddled or partly cooked, and the word was not necessarily an appellative to a distinct variety. The Kentish Codlin is the oldest name I have seen of this kind. "Quodlin" occurs as late as Ralph Austin, who refers to it in one or two of his delightful treatises. I am inclined to accept Dr. Hogg's "Pyrus magnus" in preference to the Dictionary's "Parmanus." It is not "great Pear Apple," but "large Pear." Dr. Hogg, whose library was almost unique in books relating to pomology, was no doubt aware that the Pearmain was regarded as much a Pear as an Apple, which the following extract from an early work shows to have been the case. The author remarks thus: "Peare-trees where upon growe the Apples called Peare maines, which is a mixture of two sortes of fruits." That there was a "Parmanus" is proved from a Pear of this name appearing in the list of varieties in the "Theatre d'Agriculture." The Latin name of the Pearmain was well known as Melapium. Queen Apples and Queening or Quining, were synonymous, and in Parkinson's plate of Apples the fruit is ribbed and large, rather like a Quince or "coyn." Calville appears in Parkinson (1629) as "Calual." A later writer spells it "Kairville," and in the old orchards on the Scottish Borders it is known as "The Gayvil." This is the red-checked variety. Regarding Codlins and Cream as applied to Epilobium hirsutum, I believe the connection is found in the scent, as in the Daffodil of that name in the colour. In regard to Falstaff, one can with every assurance of being correct say that there is no "learned treatise on Falstaff as a gardener," Mr. Bunyard, like many others, myself unhappily of the number, in similar circumstances, having failed to verify his allusion to Falstaff and to Justice Shallow's Pippin! And this reminds me that Malvolio gives us a perfect definition of a Codlin in the time of Shakespeare in the phrase "a Codling when 'tis almost an Apple."—R. P. BROTHERSTON.

Mr. George Caselton.—We have received the following letter: "You will remember our old friend Mr. George Caselton, who for nearly twenty years filled the position of Garden Superintendent at the Crystal Palace. Every exhibitor who attended the many shows held at the Palace will remember the great help he rendered, and how eager he always was to give any assistance in his power to all who might be in the slightest difficulty. Owing to a very serious illness, together

with changes at the Crystal Palace, he was forced to relinquish his charge. To add to his troubles his wife was ill for a long time. For nearly three years he has been under the doctor and has had a nurse in the house, and even at the present time he is in bed for twenty-one out of each twenty-four hours. As a consequence of all this trouble, the savings he had put by have vanished. Our friend is now trying to exist on £20 per annum he receives from the Gardeners' Royal Benevolent Institution, 5s. per week from his club, and occasional help from his son, who is a private in the Army. We as treasurer and secretary of the National Chrysanthemum Society feel certain there are many who came into contact with Mr. Caselton at the Crystal Palace shows who would wish to render him some assistance in his time of need. We therefore beg to enlist your kind sympathy and aid on his behalf. Any help you may be disposed to give should be forwarded as quickly as possible to Mr. Charles H. Curtis, 35, Wellington Street, Covent Garden, W.C.2.—JOHN GREEN; RICHARD A. WITTY."

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Peas.—Where it is desired to have Green Peas in May next, the seed should be sown in small pots, three seeds in each, to be afterwards transferred to boxes or large pots. A temperature of 55° by night will be ample to start the growth. Edwin Beckett is one of the best of Peas for this work. It is sturdy in growth, crops freely, and, what is of great importance, the quality of the Peas is all that could be desired. Quite Content and Duke of Albany are also excellent for the purpose.

Broad Beans.—Mammoth Longpod and Exhibition varieties should be sown in the same way as the Peas. When 3 inches high the plants can be transferred to boxes—say, 3 feet long, 9 inches wide, and 10 inches deep—in which the Beans will flourish when grown sturdily, and give abundant crops at a time when choice vegetables are none too plentiful.

French Beans for fruiting in February should now be sown, putting five seeds in a 7-inch pot. The compost should consist of half loam, leaves and decayed hor e-manure, three-parts filling the pots, to be afterwards top-dressed as the plants progress. Provide a temperature of not less than 60° by night, and give a position close to the glass when the plants are well above the soil, to keep them stocky.

Tomatoes.—Sow a pinch of seed of Sunrise, Golden Nugget and Bide's Recruit in small pots for an early supply of fruit. Keep the plants growing stu dily in an even temperature of not less than 50° by night.

The Flower Garden.

Sweet Peas sown two in each 3-inch pot in October are now stocky plants 3 inches high. When the pots are full of roots the plants should be transferred to 5-inch pots, still retaining the two plants together in one pot, as they are easily planted out intact. This second potting will make them grow more vigorously. When the second leaf shows above the seed leaves, pinch out the point of each to induce stout basal growths to push from the axils. Abundance of air to the plants will keep them robust. The site the plants are to occupy should be trenched 3 feet deep, adding farmyard manure freely, and a sprinkling of superphosphate occasionally will be an advantage.

Fruit Under Glass.

Vines that have cast their leaves should be closely pruned, cutting back all current season's growth to two eyes. One of these when in growth can be removed by disbudding when the best bunches are seen. Thoroughly wash the rods with soft soap and a stiff brush; also round the spurs, where there may be insect pests lodging. It is not necessary to peel off the bark from the rods, but any loose pieces may be removed. Do not allow the borders to become dry even during the winter, as this is against Nature and may lead to mischief in the summer.

Peach Trees should be pruned and trained, keeping the branches and shoots thin on the trellis.

The Hardy Fruit Garden.

Wall Trees should be pruned, cutting back the current season's shoots to within an eye of the base. If left longer, as too often many are, the spurs in quite a few years will be abnormally long, unsightly, and so in the way if the trees are protected by netting from frost. If the trees are a tacked by sca e or red spider, they should be well cleansed, first scrubbing the main stems with soft soap and water, and afterwards syringing them with lime-sulphur or a weak solution of caustic soda.

Plant Trees of Damsons where this fruit is scarce. Standards of The Merryweather variety succeed admirably, giving full crops the second year; as also does the Langley Bullace, which is quite a desirable fruit. Damsons succeed as bushes equally well, but standard-trained trees in an orchard are perhaps more out of the way, taking up less space where the orchard is cropped with bush fruits or vegetables.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Gard n.

Forcing in the Open.—This is an old-fashioned method which still obtains for the production of Rhubarb and Seakale. Large lidless and bottomless boxes for long-established clumps are best, and the heating material leaves of Oak or Beech, with a quota of rough stable manure to induce a steady heat. A comparativ ly large quantity is needed, for not only have interspaces to be filled, but the boxes have to be covered 1 foot in depth. A piece of wire-ne ting must be placed over each box previous to applying the heating material.

Asparagus.—This is easy to force by similar means, only frames must be placed on 6-foot-deep beds of heating material with 6 inches or so of soil between the latter and the roots of Asparagus, th se to be covered with about as much soil. One soaking with tepid water will carry the plants through the period of production.

Other Vegetables.—Preparation should be made for the forcing of early Carrots and Radishes in the same way, only about 9 inches of light compost will be enough in this case. The Carrots, if thinly sown at 6 inches between the rows, will need no thinning. The Radishes should be sown between these, one seed at every 2 inches. A sprinkling of se d of All the Year Round Lettuce may also be sown, both he Radi he and Lettuce being removed before the Carrots are large enough to need the space they occupy.

Tomatoes.—A sowing may now be made of an early variety, such as Sunrise, provided there is enough heat to keep the seedlings in vigorous growth early in the year. A much lighter compost should be used for this crop than is suitable for spring-raised plants, and directly the seedlings are large enough to transplant they should be transferred to 2½-inch pots filled with a similar compost, planting close to the inside of the pot—one in each. Only slightly firm the soil and be cautious in the application of water.

Plants Under Glass.

Tulips.—Proserpine is the easiest of the large-flowered section to force and may be had in flower by now, but usually it pays better to start it later, when longer stalks and better foliage are produced. It is very important to grow on the plants in the dark until the flowers begin to show colour, and equally important to keep the soil wet up to the same stage. Subsequently allow them to get inured by degrees to light and air and a colder temperature.

Narcissi.—A large batch of trumpets should be placed in the forcing-house, anywhere under stages, covering the pots or boxes for a time with straw in order to draw up the flower-stems. At the same time introduce more material to a cooler house, where the plants will come along slowly to be later given more heat.

Violets.—There should now be quantities of these where forced either in manure-heated frames or in pits. I prefer the latter as a simpler and less laborious method, while the flowers can be picked in all weathers without exposure. It is very important when applying water to be careful not to wet the foliage or any part of the plant, more especially if the heat is low or the outside temperature in a similar condition. One likes to see plenty of flowers on the plants, but it is really more satisfactory in the end to pick them at frequent intervals so as to always have the flowers young and therefore long lasting and fragrant. Ventilation is a valuable aid, when weather permits, to let in air.

Arum Lilies.—Those forced will now be yielding flowers, but the main batch coming on in a cool temperature will be mainly engaged in fil ing the pots with roots, for which abundant supplies of manure water even now will be essential. Arum Lilies are frequently damaged by he careless when cutting spathes by taking leaf and spathe low down. This is certain to cause the loss of the later flowers, each strong leaf producing in succession three spathes, and careless cutting such as indicated destroys the power of the plant to produce these even if the knife does not sever them or one of them.

Camellias.—These too much neglected shrubs should be examined and the flower buds reduced to two where they are clustered thickly together. The plants will soon begin to move and will want watching that dryness at th roots does not supervene. Plants in vigorous health and well rooted need occasional aid in the way of manure. The leaves are apt to become coated with dirt when grown under the shade of Roses or other climbing plants, and after being syringed the leaves should be sponged with a petroleum solution, which will render them clean and glossy for months hence.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

ANSWERS TO CORRESPONDENTS

RASPBERRY CANES FOR INSPECTION (*H. A. P. L.*).—The discoloration of the bark of the Raspberries is probably due to a fungus, but at present the damage done is confined to the extreme outside of the stem, and it may possibly go no further. We think it would be wise to leave the rods now, but if they show signs of dying in the spring, cut out the infected ones and spray the rest with Bordeaux mixture.

PERUVIAN GUANO (*W. G. S.*).—The Peruvian Guano would be best applied a little before the plants it is intended to serve are ready to use it. Sprinkle it on the surface and hoe it in, or fork it in when preparing the bed for transplanting, &c. You would find two or three small dressings at the rate of about half an ounce to an ounce to the square yard better than a single dressing of the total quantity which would be so added.

DOUBLE GRAFTING (*W. B.*).—1. What variety of Pear is known as the common Pear, and used as a stock upon which to graft better varieties? The Pear referred to is Pyrus communis. It is found wild in some parts of England; wildings, or those grown from seed, are also sometimes used. 2. What is the operation known as double grafting; and how is it performed? It is seldom that double grafting is resorted to now; it is chiefly confined to Pears. It is supposed to have the effect of converting uncertain and shy bearers to greater fertility. Marie Louise and Souvenir du Congrès are sometimes operated upon in this way for this purpose. The operation is carried out in the nursery while the trees are young, grafting the stock twice instead of once as is usual—once on the stock and once on the scion.

POOR CELERY (*H. N. L.*).—The Celery is attacked by the fungus Septoria Petroselini var. Apii, the cause of Celery blight. At this season nothing can be done to check the disease which is often carried in the seed. Next year, if the seed shows any sign of the fungus, steep it for a couple of hours in hydrogen peroxide and, in addition, spray the plants from May onwards with Bordeaux mixture. The refuse from the attacked crop should be burnt—not allowed to go on to the rubbish heap or be dug into the soil.

HAIR WASH FROM ROSEMARY (*J. S. H.*)—The following recipes for Rosemary hair washes appeared in the *Pharmaceutical Journal* for April 11, 1914. (1) Powdered borax, 1oz.; dried sodium carbonate. ½oz.; powdered ammonium carbonate, ½oz.; flowers of camphor, 30 grains; and oil of Rosemary, 10 minims. (2) Powdered borax, 360 grains; powdered quillaia bark, 60 grains; flowers of camphor, 30 grains; and oil of Rosemary, 10 minims.

BOOK ON FUNGI (*E. G. S.*).—A suitable book would be "Fungi and How to Know Them," by E. W. Swanton. Published by Messrs. Methuen and Co., 36, Essex Street, London, W.C.2.

PLANTING MONTBRETIAS (*C. B. R.*).—The "local florist" referred to is misinformed in the matter, the best cultivators lifting the whole of their choice stocks annually in late October or early November, storing them in a not too dry, frost-proof place, and replanting them in late March or early April. In conjunction with this annual lifting singling of the corms (bulbs) at planting is also resorted to, the plants thus individualised giving much the finer spikes of bloom. Indeed, the best exhibition spikes are so grown generally. The mere breaking up of the clumps of these fast-increasing subjects affords the plants little opportunity for development, though often indulged in by gardeners of a certain class. Another advantage of annual lifting is the chance of affording the plants a new site or, in any case, rested, sweet, and freshly prepared soil, all of which are important. All you have to do is to store your plants in a cool, frost-proof place, and you will have nothing to fear.

VINES

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MERSE-LIME, 5/- 1½ cwt. bag. carr. paid.
1½-cwt. is a good dressing for 300 square yards.
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Roses, dwarf, best named sorts, per doz. **8/-**
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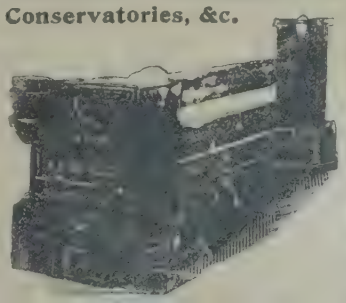

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Fragrantissima, white flowers, early spring.
Maackii, creamy flowers, followed with scarlet berries.
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Nice plant of each for 12/- package free.

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FOR THE Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

ACORNS have been widely used for live-stock of all kinds this season, and school children have been freely encouraged to collect the nuts for stock-feeding.

Acorn-Feeding.—In recommending the collection by school children of acorns for stock-feeding, the Ministry of Food and Board of Agriculture consider that acorns should be worth from 2s. to 4s. a bushel. The acorns should be delivered in fresh, sound and dry condition, or they will be liable to go mouldy in storage, in which condition it is unsafe to feed them to stock. Where large quantities are collected, they should be spread out to a depth of 6 inches to 9 inches on a dry floor in a well-ventilated shed, and be turned daily until all surface moisture has evaporated. Where it is possible to roast them gently, this method dries them thoroughly and removes all risk of moulding, while the acorns are more palatable to stock and easier to shell.

The Professional Breeder.—When the novice posts his order to the professional poultry-breeder for half a dozen pullets to supply a few eggs for the house, or for a well-matured cockerel to mate to his hens, he is, as a rule, ignorant of the routine through which the purchased birds have passed since they saw the light of day. A few words on this subject will not, therefore, be out of place. The average professional breeder regards the supplying of *matured* laying pullets and stock birds as one of his chief assets each season. Long before the ordinary poultry-keeper thinks out his chicken-rearing schemes for the year the professional has mated up his breeding pens and started hatching activities in earnest. Already I have had many reports to hand from some of my professional friends of "chicks out and doing well." It wants a stout heart indeed to face the many disappointments resulting from early mating, incubation and rearing. But without his early broods the professional would be "all at sea." He has to fit in his own requirements as well as supply all the sittings of eggs and day-old chicks booked in advance by customers. And before he can scheme out the number of pullets and cockerels to rear for sale he has to bear in mind the quantity he will need to fill the gaps in his "home" stock.

When Buying Stock.—When, therefore, the novice buys six pullets at 15s. or £1 1s. each, it is well to bear in mind the stages the birds have passed through. The professional breeder invariably suffers disappointments from weakly fertilised eggs and from losses in rearing early in the season, and he is at the mercy of Dame Nature as regards the sexes. He may find cockerels well in the majority when the birds mature in all broods hatched out up to March, with the result that he is short of early hatched pullets when the autumn comes round. One day he may be admiring his flocks of well-grown pullets, and the next lamenting the sudden visit of Reynard and blaming Fate for escorting his lordship to the pullets' quarters instead of to the cockerels'. When autumn comes round the professional breeder makes the daily round of the "growing" section of the farm either well pleased or disappointed with results.

Our Illustration.—The photograph reproduced this week has prompted me to touch upon this subject. It depicts part of the rearing-grounds on the Suffolk Poultry Farm, Hadleigh, Suffolk, the property of Messrs. Eastman Brothers. The well-matured young birds are seen in their quarters prior to disposal or removal to the laying section of the farm. In the foreground Light Sussex fowls are to be seen. Perhaps some of you have before now wondered why purchased birds have been so much larger than your home-reared youngsters. The progressive breeder makes full use of free range, once the little chicks get "strong on the leg." They are grouped into sizes and sexes, the cockerels being removed from the pullets at quite an early age to give the latter every opportunity of making progress. The growing stock are grouped and reshuffled for quality as they reach the stage of maturity, so that the owner can put his hand at once on the good, selected and specially selected specimens, respectively, in either sex. Thus, when you send your order for a £1 1s. or £2 2s. cockerel, the "right" bird can be promptly despatched.

IN THE REARING-GROUNDS.

Snapshot taken on the Suffolk Poultry Farm, Hadleigh, Suffolk, the property of Messrs. Eastman Brothers. (*See text.*)

Egg-Binding.—My advice is sought by "F. S." of Redruth, who writes:

"We have a Rhode Island Red pullet which commenced to lay last month. On Monday the bird was unable to drop her egg, which had apparently got crossways. After straining, the egg was laid, but part of the organ came outside. Will you kindly advise as to treatment?"

Egg-binding usually manifests itself in the affected bird frequenting the nest repeatedly and straining to get rid of the burden, her tail being carried low. If the bird is handled, the egg will be felt by the vent, but care is essential to prevent the egg from being broken. Steaming is the plan usually adopted to extract the egg. In the first place, give the invalid a teaspoonful of castor oil, and afterwards lubricate the vent with vaseline, olive or sweet oil. Next hold the fowl's vent over a bucket of boiling water for twenty minutes or so, which should release the troublesome egg. If the fingers are brought into play, take care not to break the egg, or inflammation may set in; in case of a mishap, remove every particle of shell to lessen the chances of inflammation.

A Remedy.—It will help matters if the invalid is afterwards isolated, being quartered in a nice warm coop or box for a time. The receptacle should be in the nature of a "hospital" coop, being well littered and having a sparred front with feeding and drinking receptacles attached. For a time stimulating food should be withheld, very little mash being given, grain of the small "appetising" kind being provided instead. Should a part of the intestines protrude from the vent owing to the straining, replace the same after lubrication with vaseline (the fingers being besmeared with the latter), isolate the bird and keep her quiet, adopting a non-forcing diet. Egg-binding may result from an insufficiency of shell-forming material.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C. 2.*

Optimistic poultry journalists are predicting a prosperous season for those who have the good fortune to possess stocks of fowls from which to breed during the coming year. They are fully justified in this, because all far-seeing people who carefully study the requirements of the country realise the absolute need of adding to the number of layers. Eggs were never before as greatly needed as now, and even when importations might recommence, there are not the stocks of fowls on the Continent to produce the eggs. Home production in this direction must be relied on and should increase from month to month—(1) By everyone hatching every available chicken, and (2) By those who have the fowls, feeding these so that their health may be maintained, and so ensure healthy progeny.

WM. COOK & SONS

ORIGINATORS OF THE ORPINGTON FOWLS AND DUCKS
(ESTABLISHED NEARLY 50 YEARS),

and the Original Firm of Cooks, whose reputation is world-wide, are daily providing the country with the necessary food to increase Egg production and promote healthiness, and their pens of birds being in full lay, they can dispatch Fertile Eggs by return, and are booking Day-old Chickens ahead for early delivery

The Food which is producing many thousands of additional eggs weekly in every part of the country is their

IDEAL MEAL

which they supply in two forms:—

(1) For use with four parts of middlings. (2) As a complete Food.

Purchasers are asked to specify which they require. A trial will convince the most sceptical of its value.

The price of the Ideal Meal is:—
Per cwt., 21/-; per ½-cwt., 11/-; per ¼-cwt., 6/-; carriage paid in England and Wales, or 1/- less per cwt. carriage forward to Scotland and Ireland, or carriage paid for 24/- per cwt., 13/- per ½-cwt.

This food is only obtainable direct from ST. MARY CRAY, and is not supplied through the trade.

There is only room for one letter this week, but it represents the gist of dozens received daily:—

Cornwall House, Kemball Street, Ipswich, 11th Dec., 1917.
You recently sent me 2 cwts. of your Ideal Meal (1 cwt. of the No. 1 and 1 cwt. of Complete). I am a Blue Leghorn breeder, keeping a breeding stock of nearly 200 birds and have found your Meal to be all you claim for it, for my pullets, although early hatched, owing no doubt to the poorness of the Meals and grains now to be obtained, had not commenced to lay. I am pleased to say that your Ideal Meal has altered this state of affairs and I am having fresh birds commencing to lay daily. I am well known on this East Coast and any use you may care to make of these remarks you are at liberty to. I enclose cheque for £3 3s. for 1 cwt. Original and 2 cwts. Complete.—G. R. DAWSON.

RELIABLE EGGS FOR HATCHING.

are now being dispatched daily from their trap-nested layers in the following breeds:—

BUFF ORPINGTONS, WHITE ORPINGTONS, WHITE WYANDOTTES, RHODE ISLAND REDS, LIGHT SUSSEX, SPECKLED SUSSEX, HOUDANS, WHITE LEGHORNS, and BLACK LEGHORNS. Fertile Eggs from good Utility Stock of guaranteed 200-220-egg strains. **8/6 per dozen.** And from trap-nested 220-284 strains. **10/6 per dozen.**

DAY-OLD CHICKENS.

The following will be ready for dispatch on and after December 27th, and those requiring deliveries during this month are specially requested to enter their orders now, as William Cook and Sons have already booked a number of chickens from these hatches.

BUFF ORPINGTONS, WHITE WYANDOTTES, BLACK LEGHORNS, and WHITE LEGHORNS. From good Utility Stock of guaranteed producers of 200-220 eggs each per annum. **18/- per dozen.** From trap-nested 220-284 egg strains. **21/- per dozen.**

Safe delivery is guaranteed in England and Wales, the risks in transit being taken by them.

MALE BIRDS.

Only a few left now, and no more will be available till 1918.

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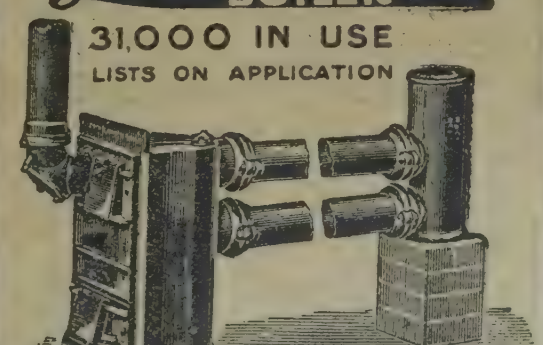

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THE GARDEN.

No. 2406.—Vol. LXXXI.] [December 29, 1917.

NOTES OF THE WEEK

It is satisfactory to learn that the movement advocated by *Country Life* for increased agricultural production by our Armies in France is at last taking definite shape. The necessary arrangements have been made with the French Board of Agriculture, and the military authorities in conjunction with the Food Production Department are appointing officials to undertake the work. Officers and men specially conversant with agriculture are to be withdrawn temporarily from the Army for the purpose. A start is to be made with 20,000 acres, part of which is to be cultivated as market gardens and the remainder used for farming purposes. Tonnage is the crux of the war, and it may well be that the growing of vegetables and cereals behind our lines in France may prove of vital importance. Steps are now being taken to apply a similar scheme to the Army in Great Britain.

In 1918 it should be urged upon garden workers that no time should be lost in turning over the ground for next year's crop. The action of frost and wind will do a great deal towards bringing the soil into a good state of cultivation. It is a misfortune that opportunities should have been missed in 1917. Let us see that no stone is left unturned to produce vegetables of the greatest food value in 1918.

A Substitute for Meat.—On the eve of Christmas comes the announcement that Lord Rhondda has decided upon a meatless day per week. This follows upon the admitted shortage of meat in all parts of the country. It will be remembered that Lord Devonport instituted a meatless day, but this was abolished, as it was shown that the consumption of bread was considerably increased as a consequence. To meet this shortage and the inevitably greater shortage twelve months hence, a dead set should be made on Peas and Beans by all who have the means of growing them. They are rich in proteids, and should be appreciated more than any other vegetables on meatless days.

The Dutch Brown Bean.—On several occasions recently we have called attention to the Dutch Brown Bean introduced and distributed by the Secretary of the Royal Horticultural Society. The great value of this Bean is in its winter use—that is to say, the seeds are ripened in their pods and used as ordinary Haricots. There is no question of the great fertiilty of this Bean. It has cropped in this country beyond all expectation, giving a yield as high as sixty, and even in some recorded cases a hundredfold. An analysis of this Bean recently published makes an interesting comparison with that of beef and Potatoes:

	Protein	*Fat.*	*Carbo-hydrates.*	*Crude Fibre.*	*Water.*	*Various Salts.*
Beans	23·2	2·1	53·7	3·7	13·7	3·5
Beef	20·9	5·2	—	—	72·2	1·2
Potatoes	1·9	0·1	20·7	0·7	73·5	1·0

From this it will be seen what an important addition may be made to the country's food by the growing of these and other seed Beans like them.

Potato Great Scot.—I can fully bear out Mr. Ellis' remarks in The Garden of December 15, page 541, about Great Scot, both for cropping and for cooking, and being a second-early it is quite fit for lifting at the end of August. I had one row of twenty-four sets, planted quite in the ordinary way, nothing being done to them except a little water given when the weather was very dry. From those twenty-four sets I lifted 190lb., and as splendid a lot as one could wish for; there were but very few seed size tubers. From 7lb. I lifted 398lb., and I am thinking Mr. Ellis will have a hard task to find one to beat it—it is what may be termed a good all-round Potato. I have not given it a trial on freshly broken up pasture land; only in the kitchen garden.—M. Hoad.

Daphne Mezereum.—This favourite winter-flowering shrub, which forms the subject of an article in this issue, is a very old inhabitant of British gardens, and it is a much debated point whether it is a true native or an alien, though H. C. Watson, in the "London Catalogue of British Plants," seventh edition, 1874, describes it as an alien or denizen; while Sir J. D. Hooker, in the "Student's Flora of the British Islands," describes its habitat as "copses and woods, perhaps native in the South." Phillips, in his "Flora Domestica," claims it as a native, and says, "with us it is very common in the Beech woods of Buckinghamshire." It would be interesting to know in what districts of Britain it still grows wild. Perhaps some reader will oblige.

Likes and Dislikes of the Mezereon.—This was one of the plants which that good gardener, the late Canon Ellacombe, had to confess that he could not grow, though why this was so he could never explain, as it grew easily in many of the cottage gardens surrounding Bitton. It favours a light loam, and when grown on a sandy soil the bushes are all the better for an annual top-dressing of leaf-mould. The best time to transplant is in October, when the plant has dropped its leaves and before the flowers are bushing. Almost before they fade the leaves begin to develop.

CUT BLOOMS OF HELLEBORUS NIGER ALTIFOLIUS.

A Handsome Christmas Rose. The accompanying illustration depicts cut blooms of the beautiful Helleborus niger altifolius shown by Mr. C. Scrase-Dickins at a recent meeting of the Royal Horticultural Society (see The Garden for December 1, page 513). The flowers are associated with sprays of the red-stemmed Rubus Polytritis.

Powdered House Refuse.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Hudson showed a sample of finely powdered house refuse which was being offered as a manure. Since such samples contain large quantities of coal-ashes, it is unlikely that their value will be great, though if the material is to be had for a nominal sum and at small cost for carting, it may be worth using. It is bound to be somewhat variable in composition.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

FATSIA (SYN. ARALIA) JAPONICA.

THE merit of this fine shrub as a winter flowerer does not seem to be generally recognised, for it is more often to be seen grown in pots, where it cannot develop its true character, than in the open, where it is as hardy as the common Laurel (which, by the by, is not a Laurel, but a Prune). Moreover, despite its large leaves—the largest of any evergreen hardy in this country except the Palm Trachycarpus excelsa—it stands a considerable buffeting by wind, for the leaves are leathery and tough, and their stalks firmly riveted to the branches. In late autumn it pushes up processes from the ends of the branches like lumps of Broccoli, which presently expand into branching panicles, bearing on ivory white stems globular umbels of white flowers. The panicle when fully developed is quite 12 inches long, and bears twelve to twenty umbels of bloom symmetrically arranged, each umbel being 2 inches or 3 inches in diameter. If the weather continues moderately mild, the bloom lasts a long time, and is conspicuously decorative in the dark mid-winter days. It is wonderful how much cold these flowers will endure unhurt. On the nights of December 8 and 9 we had 13° of frost. A rapid thaw set in on the afternoon of the 10th; on the 13th the panicles showed no trace of injury; fresh blossoms were expanding, and numerous flies, great and small, were busy among them in the bright sunshine, just as they may be seen on the autumnal blossoms of Ivy, the only British representative of the Araliaceæ. I do not know how Fatsia behaves on limestone or chalk; it is the reverse of fastidious about the quality of soil free from lime, and is very good-humoured about exposure, even thriving with more overhead shade than most flowering shrubs will endure. —HERBERT MAXWELL, *Monreith.*

LIQUID MANURE FOR FRUIT TREES IN WINTER.

WHEN "E. M." advises applying liquid manure to fruit trees during winter, he touches a subject which I have advocated for years. Years ago I had abundance of such manure at my disposal in winter and had no means of storing it till what many would consider "a more convenient season," so I applied it in a diluted state to fruit bushes, with excellent results. These results I duly communicated to a Scottish gardening weekly, and got smartly taken to task for advocating nonsense; some fruit-growers ridiculing the plan as worse than useless. Consequently, when such an authority as "E. M." gives the same advice I naturally feel a little flattered. When liquid manure is applied to fruit trees and bushes during late autumn and early winter, before defoliation is complete, it is of the utmost benefit, very materially assisting in plumping up the buds, making them strong and vigorous, the resulting blossom being well developed and thus better fitted for fruit production. We must keep in mind that the bud is the first stage in fruit production, and therefore the proper development and ripening of it is of paramount importance.—W.L.

ROTATION OR REPETITION.

WHICH is it to be? Both have their champions, who can give indisputable proof that theirs is the correct method. Theory says rotation cropping is undoubtedly the best way in which to deal with garden and field crops, as by this means the soil is made to yield its maximum to the cultivator. Cropping year after year with one class of vegetable tends to exhaust the soil of certain particular elements, leaving others practically untouched. On the other hand, practice says if you find a certain vegetable succeeding better on a certain piece of ground than anywhere else, by all means grow it there. I could cite many instances where such practice has been carried out for years, with excellent results as to crops. Of course, the spot has always been thoroughly well prepared for that particular crop every winter, and herein is the whole secret of success. Return to the soil those elements which have been extracted by the particular crop grown on it, and it is ready to do the work over again. Where, however, this cannot be done, it will, maybe, pay to listen to theory's advice. —W. L.

THE COTTAGE GARDEN.

'Tis a strip of God's brocade,
By the merry season laid,
Far below the shining sun
For His feet to walk upon.

Here are Pansies, head to head—
Not a sign of plot or bed—
In the sunlight laughing low
Whilst His feet among them go.

Overhead the Lilies nod
A friendly greeting to their God;
Roses at the pathway edges
Cast a shadow as of hedges

Over Arabis and Cloves,
Over tiny Harebell groves,
Where the glinting quartz encloses
Like a hem, the flowers and Roses.

Here the slow gigantic bee
Golden-dusted to the knee,
Takes the warp of this year's growing,
Weaves the weft before the sowing,
Changing, though he knows it not,
All the pattern of the plot.

ANNE F. BROWN, in *Country Life.*

HERBACEOUS BORDERS IN WINTER.

MR. CLARENCE ELLIOTT'S note (issue December 8, page 531) regarding the retaining of the old stems of herbaceous plants intact throughout the winter is one with which I entirely agree. The various tints of the stems and ripening foliage have quite an artistic effect when viewed in the winter's sunshine, and although the brilliant colours of the summer and autumn flowers are gone, the quiet, but none the less attractive autumn tints are quite as beautiful in their way. Another advantage in retaining the stems and foliage during winter is the enabling of Nature to complete the growth and maturing of the crowns of the plants, so that better results may reasonably be looked for during the coming season than would be the case when the top growth is all cut away before ripening has been thoroughly completed. Further, the ripened stems and foliage left on make an excellent protection during winter against severe frosts or superabundant rains.—W.L.

HORSERADISH.

WHEN at Aldenham recently I noted a (to me) new method of growing Horseradish. Raised beds of soil a yard wide and a foot high were made in long lines among forest trees. The thong-li roots, 6 inches in length, of the thickness of Cedar pencil, were laid horizontally on the b of soil, with the growth end laid alternately each side and covered with 4 inches of soil. T roots have now been lifted, and show wonderf results for nine months' growth. Some are 2 fe long and an inch in diameter; others, 19 inch long and half an inch thick. All are cle and straight; just the material for kitch use.—E. M.

PRIZE VEGETABLES.

THIS subject is agitating the minds of seve contributors; some cannot see the advanta of growing vegetables good enough to win priz Cannot they see that if they produce them extra exertion—not always by added expense it is not necessary that they shall exhi them? I wonder if those who decry the syste have stopped to realise how much more is t produce realised and how greatly superior are t individual items, not only in appearance, but bulk and quality also. Especially does th remark apply to the small grower—amateu I will ask the critics of prize vegetables to s candidly if the prize vegetables are not superi from a utilitarian point of view—bulk and quali combined? For instance, take Peas. A we grown example of Quite Content or Duke Albany will produce pods containing ten Pe of huge size possessing most excellent flavou Such are obtained without limiting the pods quite a few on each plant. Take Leeks, aga An exhibition example will measure 16 inch long, with an even-sized, perfectly blanched ste while the ordinarily grown specimen will do well it has more than 9 inches of blanched stem. W anyone say the latter contains the tenderne and juiciness of the more quickly grown exampl I do not think the ordinary person quite realis what quality there is in a Leek grown for exhi tion. Take the large Onion. More weight p rod of ground will be realised from the lar bulbs of Ailsa Craig than any other meth or variety can produce. Onions, as a rule, a used for cooking, and except for boiling or roa ing are cut into slices. Surely, then, the larg bulbs can be similarly used, and for roasti whole large bulbs contain more of what required. Take Celery. If required to be eat raw, Celery never comes to the table whole; it usually cut into small pieces. Surely the larg sticks will give more pieces, and if required who braised, why not a larger stick? Runner Bea grown on the exhibition method produce po 14 inches long, exceptionally tender, and gathered at the right moment are stringle These are sliced or cut in short lengths befo cooking. Are not they more economical th those ordinarily grown half the length? I cou give many more examples to show the advanta gained by cultivating vegetables on the exhibiti principle, but I fear I should occupy too mu space. One never hears an exhibitor, or even grower who produces his vegetables by the sh method, decry the plan of culture. The wailin usually come from those who do not, or cann produce superior examples.—NOUS VERRONS.

BRUSSELS SPROUT SCRYMGER'S GIANT.

I NOTE Mr. Bridge (page 540) mentions this variety as succeeding so well with him. This in my opinion, one of the best of Bruss Sprouts in point of quality and prolificacy. T Sprouts are small, firm and of excellent flavo I note Mr. Bridge says they "are as big as a sm

hen's egg." I do not think, as a rule, they grow so large as that; the variety is noted for its small sprouts. Perhaps the size in his case is owing to extra good culture; or has he the true variety?—S. H.

FLAVOUR IN APPLES AND PEARS.

ALTHOUGH "Anne Amateur" appears to have "backed down" in her opinion, expressed in your columns, with regard to Pears, she still sticks to her guns, I see, in describing Apple Cox's Orange Pippin as awfully overrated. She instances five varieties which she asserts excel it in flavour. I will take them *seriatim*: (1) American Mother.—That she and I do not quarrel about. (2) An English-grown Ribston.—To that I reply that Ribston is a delicious fruit; but, taking a well-finished specimen of Ribston and Cox's, the latter beats it in flavour by a point or two. Until the advent of Cox's, Ribston was without doubt the best flavoured of all Apples. (3) James Grieve.—This is a nice juicy, early fruit, and I am aware that in some catalogues it is described as similar in flavour to Cox's. It is nothing of the kind. "Anne Amateur" says she finds it excels Cox's in flavour. Ridiculous! No competent judge will agree with her. (4) The old Sussex Forges is superseded by so many superior new varieties that to contest her opinion here is mere waste of time. Her description of it as an all-round good Apple may be allowed to pass by some, but even here many would disagree. (5) This she is no doubt correct in identifying as Reinette Rouge Etoilée. I grow and know Reinette Rouge Etoilée. It is a neat, coloury little fruit, with a not unpleasing flavour, but very many points inferior to Cox's. To sum up, I may say that I am not so altogether in love with Cox's as to describe it as an absolutely ideal Apple. I live in the hope of some day seeing (perhaps raising!) a more finely flavoured fruit, but up to now (with perhaps the exception of American Mother) Cox's, to my mind, holds the field for flavour.—F. H. C., *Rye*.

APRICOT FRUITING SPURS.

I AM sending a photograph of two spurs, laden with fruit, from a tree of the Moorpark variety growing in the gardens at Penrhyn Castle, near Bangor, where it has flourished for eighty-eight years. The tree is a marvel of management in production, as the photograph will show, and a credit to Mr. Speed, the head-gardener, who has managed these famous gardens for the last fifty-four years. The chief causes of success are undoubtedly the perfect system of training the tree, allowing ample light and air to reach the branches by the thin training of the branches and the close spurring of the summer growth, and an ample supply of water at the roots as required. This Apricot has been known in gardens since 1784 and is still one of the best varieties.—E. MOLYNEUX.

"SOME FALLACIES REGARDING THE CLEMATIS."

I HAVE been much interested in the articles and criticisms under the above heading, as three years ago I planted Clematises between a row of Dorothy Perkins Roses; the latter were 6 feet apart. I bought the Clematises from a well-known nurseryman, but have been very disappointed with the way they "die back." All have had "die-backs," though some have done better than others. I am only an amateur gardener seeking light, but as I know my plants were grafted, I am one (and perhaps the only one) who would doubt Mr. Jackman's theory. I do this with great diffidence; but on account of the disappointments next season. I trust to learn the experience of others through the medium of THE GARDEN.—ARGO GOLD.

WAR-TIME CHRYSANTHEMUMS.

ALTHOUGH it is undoubtedly our patriotic duty to produce the maximum of vegetables—which no doubt we are all doing—no apology need be made for advocating the growing of a few flowers for our hospitals and churches. In the spring and summer the herbaceous borders provide a variety of bloom, but as autumn advances the supply recedes; and the problem of obtaining a few flowers in the dark days is a very real one to matrons and nursing sisters. In pre-war times we were wont to spend anxious days and weeks in growing Chrysanthemums for the show table; but as this pastime is now taboo, those of us with greenhouses and stock would be doing a really patriotic turn by growing as many Chrysanthemums as we can compatible with the highest possible yield in the kitchen garden. Little or no heat is required to grow decorative sorts of good quality. The cuttings may be dibbled into boxes as late as March and April, potted into small pots, and planted out in a spare corner of the vegetable garden, to be lifted in September, packed in old boxes, and transferred to the greenhouse to finish. Suitable varieties for this purpose are Framfield Early White, Goacher's Crimson, Lizzie Adcock, Quintus, Champagne, Souvenir de Petite Amie, La Triomphante, Rayonnante, Money-maker and many others. These will provide flowers of various colours from early November till Christmas. Of the better sorts for pot culture, good doers are Mrs. A. T. Miller, Mrs. Tickle, Mrs. R. Luxford, Mrs. William Knox, Mrs. Marsham and D. B. Crane, all of which the writer finds give good results with the minimum of trouble. No doubt many other Japanese varieties would give good blooms under similar treatment; and one has the satisfaction of perpetuating a good healthy stock for future use in happier times, as, not being overfed, the cuttings obtained are strong and vigorous.

Raising Vegetable Seeds Under Glass

BY EDWIN BECKETT, V.M.H.

TO all who have the means, it is of the utmost importance that no time should be lost in making provisions for increasing our food supply at the earliest possible moment. The seriousness of this question has been forcefully placed before us by our leading statesmen, as well as by those who are in a position to express an opinion. Much has been done during the past year in this direction, but still greater efforts should be put forth during the coming year, and certainly no one should hesitate to do his or her "bit" in this direction. There are thousands upon thousands of acres of suitable land up and down the country which at the moment are practically waste, and only require proper tillage to bring them into the highest state of cultivation.

APRICOT SPURS LADEN WITH FRUIT.

There are a very large number of nutritious vegetables which can, and should be, brought forward in their early stages under glass, which means a very considerable increase in the early supply at a period at which shortage usually reigns; and much better results are obtained than by sowing in the open ground. This system has many distinct advantages over outside sowing. The seeds germinate much more readily owing to the genial temperature in which they are placed, and one has them under control to a far greater extent. Thus it means a great saving of labour, less seed, and better results.

A cool house or a slightly heated pit is an ideal structure in which to raise the seedlings. An excess of heat is prejudicial rather than otherwise, and the boxes or pans in which the seed is sown should be elevated as near the glass as possible. In all cases the seed should be sown thinly, as overcrowding, even in the young state, means a serious drawback to their future.

Some of the most useful vegetables which I

sown at once are early Peas, Broad Beans, Cauliflowers (such as Early Giant, Early Forcing and Snowdon), Cabbage (any quick-maturing variety), Lettuce (both Cos and Cabbage), Onions, Leeks and Parsley. Tomatoes and Cucumbers should be raised in strong heat for early supplies. Potatoes should be planted largely, choosing only those varieties which mature quickly. These may be planted either on the borders or in heated pits. All available pots and deep boxes should be utilised for their production. It is surprising, if good tubers are employed for the purpose, what a large yield can be relied upon.

ARRANGING CROPS FOR 1918

By EDWIN MOLYNEUX, V.M.H.

FOR the successful cultivation of vegetables a thorough system of rotation for the bulk of the crops is an advantage, although it has been abundantly proved that a change of site and soil is not, in many instances, absolutely essential. Indeed, in small gardens it is an utter impossibility to arrange that every vegetable shall have a new position to that which it occupied the season before.

There are certain vegetables grown—such as the Onion, for example—that need a thorough preparation of the site, and if it were compulsory to repeat such an operation annually, most likely it would not be done. The great point when allotting certain crops to the same site for the next year is to ensure that the land is provided with similar food to that taken from it by the previous year's crop. There is no doubt that farmyard manure plays an important part in the successful growth of the bulk of vegetable crops. The cultivation is also all-important, embracing as it does so many details, such as hoeing, thinning the crops, watering and so forth.

Deep trenching or digging is one of the salient points to remember, as, without due preparation of the soil, after-attention is useless, or nearly so.

For the encouragement of the inexperienced with a limited space, I assure them they need have no fear of success if they carry out my suggestions. The following are vegetables that may safely occupy the same site continuously. Onions revel in deep, well pulverised and heavily manured soil. Potatoes can be successfully grown on the same site thirty years without a break. Certain members of the Brassica tribe flourish if arranged in the following manner: Brussels Sprouts, followed by Cauliflowers put out in April and cleared off in October. The land, if then trenched, manured and dug over again in February, is ready to receive the Brussels Sprout plants in March or April, as the case may be. In this manner Cauliflowers and Brussels Sprouts can occupy the alternate sites for many years. In the ordinary way of rotation cropping, Cabbage succeeds Onions. Parsnips, Beet, Carrots, Salsify and Scorzonera follow Celery, because the manipulation of the soil for the Celery trenches and the subsequent earthing up of the plants thoroughly disintegrates the whole, rendering it more amenable to root culture. Peas may follow Potatoes quite safely, while Broccoli and other members of the Brassica family are certain of success after root crops. All such small crops as Turnips, French Beans, Lettuce, Spinach, Endive and so forth require no special arranging or preparation. Much more might be written on this important subject, but sufficient has been said to give an outline of the production of these valuable crops.

The Best Vegetables in a Scottish Garden

THE seed catalogues are once more coming to hand, and the making out of the seed order for next year's supply of vegetables will have to be attended to. On the whole, 1917 was a very favourable year for vegetables, and perhaps a short account of the best kinds grown here may be of some little use to others situated in similar districts. We stand some 380 feet above sea-level, and the soil is a fairly heavy loam, inclined to clay. Abundance of stable manure and deep cultivation make us pretty well independent of the long spell of drought such as we experience during May and June. I will now give a few notes on the best of the varieties of the various kinds grown in this garden.

Beans, Broad.—Milecross Monarch was again the best, with Green Giant an excellent second, two remarkably fine Beans sent out by Messrs. A. Dickson and Sons of Belfast. The Cropper was also good.

Beans, Dwarf.—Sutton's Reliance was even finer than ever before, and that is saying a lot. It is probably the very finest Kidney Bean in cultivation for this district. Another very good Bean was Webb's Supreme, tried for the first time last year. The old Canadian Wonder was also extra good.

Beet.—Dickson's Black-leaved and Webb's Volunteer were excellent. The latter is a very fine and true variety, with green foliage.

Borecole.—Carter's Russian Kale is a most excellent vegetable, and only wants to be better known to ensure wide cultivation. Very hardy and of fine flavour.

Broccoli.—Methven's June was, as usual here, the best. A very hardy variety and of fine table quality.

Brussels Sprouts.—We grow these largely. Newtownards Gem is again the best, both as regards quantity and quality. Solidity, Ideal and Sutton's Dwarf Gem are also very good.

Cabbages.—Sutton's Flower of Spring is still unbeaten for spring use. Sutton's Harbinger comes in a few days earlier, and is also a good hardy Cabbage. It matures all at once, however, whereas Flower of Spring continues in condition for many weeks and never bolts. For spring sowing and to ensure a regular succession, nothing can approach Sutton's Favourite and Winningstadt in this district.

Cauliflowers.—Sutton's Magnum Bonum, Sutton's Favourite and Webb's Autumn Queen gave a first-rate succession, notwithstanding the drought.

Celery.—Grove Pink and Dickson's Superlative Red are very fine indeed.

Leek.—Scotch Musselburgh, as always, gives a fine crop.

Lettuces.—Carter's Holborn Standard, even during the hottest and driest part of the season, furnished grand heads of perfect quality. New York Giant is another particularly fine Lettuce. It grows to a large size, and is as mild and crisp as a good Cos variety.

Onions.—A failure.

Peas, Early.—Pilot and Carter's Giant Lightning were very good.

Peas, Second-Early.—Webb's Senator gave a most wonderful crop of grand Peas. This is probably the most prolific of all Peas here. Daisy was very fine indeed. Manifold was most satisfactory—a fine dwarf Pea. The Lincoln again proved to be a really excellent Pea, one of very best dwarfs.

Peas, Maincrop.—Boston Unrivalled gave a good crop and was of superior flavour. Wel Nonsuch is a remarkably fine new Pea. crop was very heavy, the pods large and well fi while the table quality was excellent. Glory Devon, as usual, gave a fine crop, while Re Salute is undoubtedly the finest maincrop grown here.

Peas, Late.—The Gladstone was truly gra but, I think, was surpassed by Dickson's Reargu It somewhat resembles The Gladstone, but pods are larger and the crop, if anything, heav Carter's Latest Giant is another extra fine for latest supplies. Webb's Prizetaker Marrow should, perhaps, be classed with the mainc varieties. It was one of the very best s here. It has large, deep green pods, and crop was very heavy. For flavour this little to be desired.

Potatoes.—May Queen was the best ea while The Factor and Langworthy were fi rate late sorts.

Savoys.—Sutton's Best of All is a very selection for all purposes, with Ormskirk for la supplies.

Spinach.—Victoria Round is an excellent thi leaved variety which does not readily run seed.

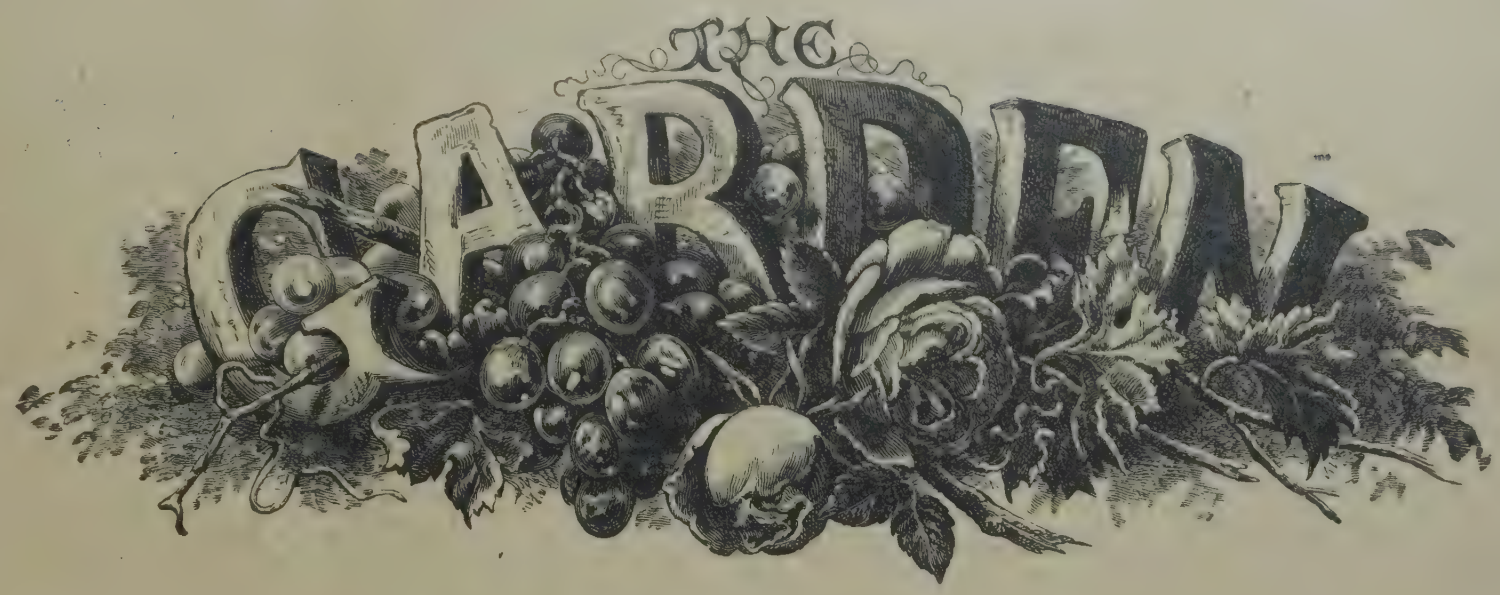
Tomatoes.—These have always to be gro under glass. This year's crop was very hea and the fruits were, on the whole, larger th usual. The best sort was Laird's Supre with Freedom (an American variety) a good seco This latter gives very fine fruits, but is, perha not quite so prolific as some others. Stirl Castle and Carter's Sunrise were both first-rate

Turnips.—Snowball is the best early Tur we grow. Silver Ball is also excellent. Bec Golden Stone is a good yellow Turnip, and Dickso Garden Swede is a fine selection for winter use.

Preston House, Linlithgow. C. BLAIR

Roses from North or South

A FALLACY exists in the minds of many amate that to obtain Roses from the South of Engla for planting in the North is very detrimen to the well-being of the plants. In like mann those living in the South have a reluctance purchase plants from the North. This is a v absurd notion, as all Rose-growers of large expe ence would be the first to admit. The idea largely exploited by catch-penny advertisers, readers may take it that there is nothing whate in the assertion. I, and I am sure many ot rosarians, have had Roses from all parts of Engla Ireland and Scotland, not to say from all over Continent, and I have not found a single case wh success or failure could be traced to the point the compass whence the Roses were obtained. success or non-success is to be found in the vari rather than in the district, and I should also a on the stock upon which the Rose is budd The native Briar is so hardy that it imparts mu of its hardy nature to the Roses, whereas Manetti stock is so tender that I have kno instances where hardy Roses on the Briar ha succumbed when they were budded on the Mane Much more depends on the success or non-succ of the plants as to the manner in which they sent out. Some dealers have no regard whate for their roots, but, believe me, unless they well protected on the journey and arrive in healthy condition, it would not matter whet they came from North or South—they wo almost certainly be a failure. DANECROFT



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THIS VOLUME OF "THE GARDEN"

is dedicated by permission to

THE RT. HON. SIR HERBERT MAXWELL, BART.,

P.C., D.C.L., LL.D., F.R.S.

IT is given to few to possess great knowledge and at the same time the gift of imparting it with grace and charm. Yet this may be claimed for Sir Herbert Maxwell, to whom we have the honour and the pleasure of dedicating this volume of THE GARDEN. He combines an intimate and practical acquaintance of the craft of gardening with an accomplished pen, and a style which never fails to delight and instruct. In many branches of science and art his name is honoured, but in none is he held in higher or more affectionate esteem than among those where trees and flowers are cultivated.

Who has not read with pleasure his "Memories of the Months," "Meridiana," "Scottish Gardens" and "The Woodland Note-book," to say nothing of countless articles on horticulture, or on art and archæology, sport and history? Those who have been privileged to visit Monreith—that famous Galloway garden about which so many delightful accounts have flowed from his pen—can attest to the zeal and knowledge bestowed on an exceptionally rich and interesting collection. The West of Scotland, with its enviable climate, can boast of many fine gardens, but of none in which an owner's personal labour, attention and wide experience are so successfully combined. This is the secret of Sir Herbert's renown.

His life has covered wide and varied fields. For twenty-five years Member of Parliament, for many years a Minister of the Crown, Lord-Lieutenant of his County, Privy Councillor, Fellow of the Royal Society, President of the Society of Antiquaries of Scotland, and Chairman of Royal Commissions and Committees—these indicate some of the activities amid which he has become a recognised authority on all that pertains to horticulture and forestry.

Sir Herbert Maxwell takes the keenest interest in national affairs. For some years he has been President of the Territorial Force Association of his county, and his two sons have died in the service of their country—one in South Africa in 1897, and the other at Antwerp at the commencement of this war.

We are confident our readers will join us in offering an expression of hope that he may long be spared to carry on his useful and interesting work, coupled with gratitude for the many and signal services he has rendered.

THE RIGHT HON. SIR HERBERT MAXWELL, BART., F.R.S

INDEX

Aberuchill and its gardens, 544
Abutilons, 101
Ægle separia, 185, 220
Agave americana, 446
Agricultural workers, wages for, 449
Aliens, some naturalised, 238, 251
Allotment, a reader's, 87, 345; cropping a 10-rod, 90; National Union of, 277, 489, 523; security wanted, 573; week by week, 52, 58, 74, 89, 98, 115, 143, 162, 186, 225, 246
Allotments, 69, 70, 333, 347, 453; exhibition, 415
Alnus glutinosa, 119
Alyssum saxatile, 369
Analysis, 268, 392, 416, 453, 456
Anchusa, 216; Dropmore Variety, 229; root cuttings of, 244
Androsace ciliata, 158
Anemone blanda Ingram's Variety, 133; Pulsatilla, 150; P. alba, 119; vitifolia tomentosa, 326
Anemones, St. Brigid, 422; Wood, and Snowdrops, 138
Annuals, 565
Antirrhinum Prima Donna, 224
Ants, 248; and Lily flowers, 353
Apple Allington Pippin, 2; Annie Elizabeth, 91; Blenheim Orange, 432, 514; Court Pendu Plat, 78; Cox's Orange Pippin, variation in, 96, 121; crop, 506; Early Victoria, 341; eating, 517; Ellison's Orange, 474; French Crab, 551; Gloria Mundi, 416, 442, 478; hybridisation of, 173, 197; Irish Peach, 490, 542; Lane's Prince Albert, 233; Miller's Seedling, 281; Newton Wonder, 367, 422; Newtown Pippin, 344; orchard, planting an, 534; Orleans Reinette, 35; Peacemaker, 341; shoots, woolly aphis on, 10; St. Everard, 416, 442, 455; Stirling Castle, 292; trees for enclosed garden, 414; grafting, 134; high planting, 490; injury to, 78; pruning, 400, 446, 500; silver-leaf in, 173; three "quality," 416
Apples, 475; analysis of, 12, 39; choice, 385, 433, 455; flavour in, 4, 65, 479, 502, 561; Crab, 203; Golden Pippin, 542; little-known, 542; many-seeded, 501; storing, 442; windfall, 377
Apricots, 288; Fruiting spurs, 561
Arch, creepers for an, 110
Arsenate of lead spray, 247, 289
Artichokes, Globe, 103, 109, 311, 474; Jerusalem, 492, 510, 514, 522, 535, 537, 557, 566; two recipes for, 65
Arum, a red, 280
Asarum europæum, 369
Asparagus, 93, 134, 215, 221, 338, 496
Aster J. Vaughan, 423; paniculatus, 427
Asters, Chinese Marguerite, 404
Astilbe grandis, 253
Astragalus maximus, 1
Bamboos, the, 391
Barberry, 538
Barr Cup holders, 184
Bastia, Corsica, 6
Battlefield, of a year ago, 304
Bean, Broad, tops, 208; Dutch, 417, 513; Dwarf French Masterpiece, 160; Phenomenon, 72; Runner, as a winter vegetable, 171
Beans, 223; Broad, 84, 109, 214, 450; fly on, 195; resowing, 103; Climbing, 216; coloured, 437; Dwarf, for Scottish gardens, 153; early, Marrows, and Ridge Cucumbers, 131; French, 16, 70, 93, 255, 311; and red spider, 219; Haricot, 140, 543; harvesting, 208; Kidney, 178; Runner, 98; cooking seeds of, 280; preserving, 184; staking, 106, 128, 171, 174; to sow now, 164; value of, 27; watering, 267; White Emperor, 112; White Runner, and Roses, 331; without sticks, 151, 171
"Beastly days," no more, 451
Bee-keeping, 128, 138, 150, 160
Bees, flowers for, 48, 56, 64, 80, 97; purchasing, 241
Beetroot, 423; as a bedding plant, 343, 353; Crimson Globe, 44; trial, 219, 522
Beetroots, 145, 175; to store, 353, 425
Begonia fuchsioides, 101; Gloire de Lorraine, 7; Hatton Castle Bedder, 428; weltonensis, 167
Berberis Aquifolium, 525; polyantha, 474; Thunbergii, 538
Berkshire garden notes, 482
Bibulous, column for, 412
Bilberry, land of the, 363
Birds, black and other, 109; friends and foes, 538; ingenuity of, 4
Blackberries, heavy cropping, 466; our native, 431, 490
Books—
"All About the Potato," 249; "American Indian Corn," 520; "Annuals and Biennials," 24; "Booklet on Bottling Fruits and Vegetables," 243; "Johnson's Gardeners' Dictionary," 202; "Paynter's System of Poultry-Keeping," 135; "Rhododendrons," 556; "Soil Conditions and Plant Growth," 364; "Standard Cyclopedia of Horticulture," 439
Books—*continued*
"The Beginner's Allotment," 262; "The Novelist in the Garden," 281; "Theophrastus," Sir Arthur Hort's, 180; "The Perpetual-flowering Carnation," 413; "Vegetable Growing in War-Time," 85
Border, herbaceous, 53, 70, 93, 427, 531; south, 21, 304
Bramble, American, 280
Brassica "clubs," 449, 477, 480, 523, 541
Broccoli, 37, 43, 117, 216, 338, 474; Green Sprouting, 91, 175
Brooklime, 264
Brooms, late, 453; Spanish, 513
Brunsvigia Josephinæ, 550
Brussels Sprout Dwarf Gem, 96, 493
Brussels Sprouts, 28, 61, 117, 132, 145, 175, 209, 233, 256, 268, 325, 487, 538
Buddleia variabilis and butterflies, 383
Bulbs, 410, 439; early, 40; home-grown and foreign, 88
Bullfinch biography, 199
Burnham Sands, 486
Bush houses, 292
Butterflies in France, 128; in the lane, 357
Cabbage, Chinese, 392, 415; Harbinger, 172; patch, 221; Root Maggot, 256, 265, 277; Tonic, 183; Whites, 319, 368, 383
Cabbages, 103, 117, 124, 221, 258, 263, 279, 291, 299, 325, 333, 338, 438
Calceolaria Clibranii, 7; John Innes, 369
Calceolarias, 547; hybrid, 77
Calendula officinalis, 453
Camellias, hardiness of, 2, 13
Campanula pulla, 356; rupestris, 219
Caraway, cultivation of, 488
Cardoons, 156, 338
Cardus heterophyllus, 342
Carnation blooms, record of, 21, 56; Countess of Wilton, 61; Maldron Drummond, 224; Marian Wilson, 546; Mrs. Edward Douty, 546; Red Ensign, 431; Wheatear, 513; Winter Glow, 546
Carnations, 239, 436, 533; border, 41, 53, 56, 410, 522; Malmaison, 156; propagating, 263; Perpetual, 118
Carrots, 436; cultivation of, 283; storing, 413; thinning, 165
Castor Oil Plants and Azaleas, 414
Catalogues, 87
Catalpa bignonioides, 398; Tree, 505
Cauliflowers, 111, 130, 216, 263, 275, 509
Ceanothus Gloire de Versailles, 401
Celeriac, 79, 101
Celery, 124, 236, 239, 263, 288, 338, 400, 475; and Celeriac, ways of using, 532; blanching, 171, 370, 394
Cerastium, 243
Ceratostigma Willmottiana, 423
Ceterach, 97
Chantarelle, 371
Cherries, 191
Cherry, Morello, double, 184; wild, 489; trees, black fly on, 207
Chestnuts, 157
Chicory, 164, 291; Brussels, or Witloof, 156; forcing, 525
Chimonanthus fragrans, 9
Chives, 289
Choco, Sechium edule, 309
Chrysanthemum Alex. Hervey, 498; Brilliant, 521; Crusader, 498; Donald, 498; General Pétain, 498
Chrysanthemums, 124, 239, 263, 423, 522, 533, 561; from seed, 489
Chutney, windfall, 404
Cinerarias, 216, 312, 325, 401, 547
Clematis among shrubs, 491; Armandi, 519; calycina, 11; "die-back," 441, 466, 491, 526, 541 561; freed, 515; Jackmanii, pruning, 103; loss of, 466; montana, 216; nutans, 519; paniculata, 478; recta, 391
Clematises, 118
Climbers, pruning, 34
Clove Gilliflower, 40
Cobæa scandens, 518
Codlins, Pippins and other Apples, 506, 557
Colour, an aspect of, 459, 478; description, 330, 354, 382, 392, 404, 416, 429, 455, 502; standardisation, 13
Comments on THE GARDEN, 364, 390, 451, 463, 496, 555
Conservatory, cold, in winter, 313
Contrast, a, 85
Cordyline australis, 293, 319; leaves as tying material, 393
Corn, Indian, 435, 523; pudding and Corn fritters, 220
Cornus controversa, 219
Corylus Avellana contorta, 34
Cotswolds, fodder plant from the, 535
County Derry garden notes, 457; Down garden notes, 256, 322, 363, 431, 498
Crab Apple Jelly, 352
Cratægus monogyna, 27
Crinums, 490; dividing, 414
Crocus biflorus var. Weldenii, 150; chrysanthus Warley Variety, 100
Crocuses, autumn, 478; in grass, 137
Cropping notes, 306, 319
Crops, earthing-up, 191; kitchen, 153; produce of, 500; some good root, 27
Crown Imperials, 350
Cucumbers, 93, 134, 178, 216, 227, 311, 389, 423; and Marrows, 157; and Melons, 250; autumn, 531; in fruit, 16
Currants, Black, big-bud on, 28, 56, 113; drying, 292; Gooseberries and Plums, 313; Red and White, 101
Cyclamen Cherry Ripe, 84; Crimson St. George, 34
Cyclamens, 16, 239, 496
Daffodil diseases, 188; Distingué, 178; notes, 166, 296, 322; season, 150
Daffodils at Westwick, 189; costly, in New Zealand, 64; replanting, 180; what is wanted in, 28
Dahlias, 312; Pæony-flowered, 135, 146; single, 61
Dendrobium Illustre Florence Bartels, 179
Desfontainea spinosa, 11, 20
Deutzia Vilmorinii, 224
Devonshire, effects of winter in, 185
Dianthus Allwoodii, 16, 20, 28, 49; Napoleon, 321
Dictamnus Fraxinella, 135
Digging, different forms of, 105, 121
Digitalis alba, 93
Drop-scene, the, 494, 514
Duckweed, 368, 418
Earlham Hall, 114, 372
Earwigs, invading, 261
Easterman Giant, 97
Elder, common, 244; Golden, 267
Elm, useless, 527
Endive, 361, 521; as an autumn salad, 320
Engraving, French, 151
Epacrises, double, 72, 80, 96
Escallonia Donard Seedling, 428; langleyensis, 317
Eschscholzia, double, 455, 465, 502
Eustoma Ellisii, 376
Evenings, winter, 30
Exochorda Albertii grandiflora, 202
Fabiana imbricata, 421, 442
Fernery, hardy, 273, 292
Fig Brown Turkey, 371
Figs, drying, 281; on walls, 338
Flower bed, war-time, 419; garden notes, 224, 252, 285, 323; parts of a, 227
Flowers, winter, 554, 563; and music, 544
Food, increasing, 38; values, 129
Forget-me-not, saving seed of, 526
Formal and informal gardens, 248, 405, 429, 466, 527; in garden and literature, 280; and wild, 354
Fowl-manure, 212
Foxgloves, white, 361
Frames, cold, 48; substitutes for, 95
Freesia La France, 66, 71
Freesias, 12; hybrid, 49
Fritillaria aurea, 166
Frost, 128, 151, 220, 403
Fruit blossom, 196; bottling, 260, 295, 360, 368, 385; crop, drying the, 222, 247; survey, 526; crops, good, each year, 221, 244; gardens of England, 412, 460; gathering, 406; growing in Australia, 288; notes, 307; preserving, 343, 373, 403; pulp, bottling, 187; trees, cordon, pruning of, 288; training, 371; culture of, 406, 422, 429, 432, 448, 476, 481, 492, 517, 529, 556; felling, 160; grease-banding, 448, 461; heavy cropping, 467; in pots, 70, 84, 178; mulching, 118; planting, 403, 442, 486; protecting, 134; pruning, 32, 88, 297; restoration of, 344; saving French, 255; spraying, 65, 72, 80, 88, 96, 104, 112; unfruitful, 456; unpruned, 456; work among, 344
Fruits, fertilisers for, 209; list of, 144
Fuchs and technical terms, 1
Fuchsias, 53
Fumigating with hydrocyanic acid gas, 85
Galanthus Ikariæ, 2; nivalis and varieties, 67; plicatus, 97
Garden, always a flower in the, 2; amateur work in the, 445; attractive, 408; Captain Daubuz and his, 36; Corsican, 220; County Down, 42, 343, 387; deserted, 180; Devon, a, 298; economy in the, 162; kitchen, 260, 409; moraine, 264, 274, 311, 335; planning a Rose, 20, 30; rations, 196; small Rose, 9; Surrey, 408, 507; town, 154; villa, 60, 94, 104; Weybridge, 208; wild, 268; autumn tints in, 465
Gardens and formal gardens, 330; and gardening, 443; Japanese, 530; wall, village of, 75
"Gardener, Florist and Agriculturist," 244, 281, 305
Gardeners and National Service, 127
Gas-lime and club root, 204, 269
Gentian, dividing, 414
Gentiana asclepiadea, 446; Purdomii, 326; septemfida, 369
Geranium Mme. Crousse, 442; Wallichianum E. C. Buxton, 453
Geraniums, 325; selection of, 488
Geum montanum, 64
Gilia coronopifolia, 368
Gladioli, 462
Gladiolus Sunspot, 326
Glen Clova, 386
Gloxinias, 167
Glyceria aquatica, 311
Gooseberries, 101, 239, 538; bottling, 237; cordon, 371; mock, 20; protecting from birds, 112; some good, 321
Gooseberry, hybridising the, 29; mildew, 137, 174
Grafting and seed, 240
Granadillas, 327
Grape Moore's Early, 528; Millers Burgundy, 551
Grapes, 250, 275, 299, 325; bottling, 462; early, 389; late, 487; Muscat, 263, 522; outdoor, in London, 528, 551
Grass land, 419, 452, 533
Green fly, remedy for, 233
Greenhouse, seed-sowing in, 377
Greens, 250; for winter use, 281
Guernsey Lilies, good old, 526; notes, 458, 483, 508
Gunnera scabra in Perthshire, 416
Gypsophila elegans (rosea and alba), 329
Gypsophilas, 167
Hawthorn notes, 530
Hedge, a cheap, 14; and hedges, 276; clipping, 329; that, 228, 232
Helleborus niger altifolius, 513; Peter Barr, 63
Henbane as a medicinal herb, 133
Herb drying, 289, 342; growing, 414; medicinal, 149; pudding, 73
Herbs, 77, 145, 167, 400; at Abbeyleix House, 543
Hibiscus schizopetalus, 427; Waimæa, 427
Hollies for carriage drive, 352
Honey production, intensive, 497
Hop garden, English, passing of, 112
Hornbeam (Carpinus Betulus), 403
Horseradish, 53, 93, 255; ale, 255
Horticulture, National Diploma in, 267
Hotbed cooling down, 136
Hutchins, the Rev. W. T., 135
Hyacinth commission in 1840, a, 127
Hyacinths, Dutch, 87
Hydrangea, common, specific name of, 341, 454; Hortensia, 308, 330
Ilex Hodginsii, 48
Insect enemies of vegetables, 188
Insects, beware of, 234
Intercropping and catch crops, 171, 173
Ipomœa Leari, 403
Iris, English, 361; hardiness of, 447; reticulata in pots, 107; Ringdove, 224; Rosenbachiana, 323, 330, 405; sibirica Perry's Blue, 224
Irises, June, 248, 286; Regelio-cyclus, 40
Judas Tree, 139, 161, 172
Juniper, the Mountain, 261
Juniperus nana, 305, 330; phœnicea, 457; the genus, 430
Kew, mid-January flowers at, 32; notes, 434, 509, 536
Kohl Rabi, 201, 427, 514
Kossovo, the Field of, 252
Labels, 273, 292
Labrador Kale, 171
Lælio-Cattleya Canhamiana Golden Fleece, 376; Commander-in-Chief, 400; General Maude, 101; Serbia var. Perfecta, 158; St. George Bryndir Variety, 474; The President, 101; Trident, 66
Lake Country, reminiscences of the, 396
Land Cultivation Act, 189
L'Année Champêtre, 443, 478
Larkspurs dying off, 233
Lathyrus azureus and Orobus varius, 293
Laurus nobilis, 404
Laurustinus, 482, 489, 550
Lavender, a plea for, 303; dwarf, 303; supply, increasing, 329; white, 303
Lawn, artificial manures for the, 173
Lawns, care of, 83; near dwellings, 159
Leek bulbs, 68
Leeks, 172, 203, 228, 239, 258, 338; blanching, 255 282; exhibition, 160; for seed, 243
Lepidium Smithii as a vegetable, 184, 209
Lettuce, 167, 231, 400, 521; planted *v.* sown, 116; seeds, sowing, 173
Lettuces and Endive, 288; planting between Celery rows, 279; three, 332
Leucojum vernum carpaticum, 103
Ligustrum lucidum, 303
Lilac Ellen Willmott, 224
Lilies, Arum, 462
Lilium monadelphum, 309; Parkmanii, 392; regale and ants, 303; speciosum × auratum, 359
Lily, a collected, from China, 405; of the Valley berries, 381; season in Scotland, 420; the Nankeen, 335
Lime, the use of, 153
Loganberries, 84, 288; and Raspberries, autumn treatment of, 362
Loganberry, origin of the, 353
Lonicera fragrantissima, 23; Maackii, 549; nitida, 127, 129; Standishii, 23, 555
Lucerne and its colour-forms, 357
Lungwort, narrow-leaved, 168
Lycoris aurea, 56
Mâche, 73
Magenta memories, 551
Magnolia Watsonii, 224
Makuri Gorge, 318
Manure, artificial, 256; heap, 219, 231; liquid, 535; making of, 332, 392; problem, 481
Maritime Alps, 387

Marrow pickle, 377
Marrows, 70, 209, 272, 361; and Pumpkins, remarkable crop of, 428; growing up poles, 306; intensive cultivation of, 320; selection of, 236; stuffed, 361
Medlars, gathering, 425; storing, 414
Meliosma cuneifolia, 317, 355
Melons, 70, 101, 109, 167, 275
Mesembryanthemums, 508
Methods, our ancient, 526
Michaelmas Daisy notes, 418
Michigan garden, 482
Mignonette and rain, 388, 409
Miltonia Princess Mary, 250; Venus, 84; vexillaria Sir Mervyn Buller, 224
Mint, 231
Mistletoe on Oak, 2; on the Elm, 12; on the Pear, 2
Mole-eating wireworm delusion, 233
Moles, trapping, 133
Monreith, Sir H. Maxwell's garden at, 284
Morœa, a dwarf, 1
Mounton House, 122, 142
Mulberries and Walnuts, 287
Mulching, the value of, 184
Mushrooms, 34, 93, 146, 299, 349, 410, 487; and their culture, 185, 384
Musk, fragrant, 269, 280, 304; in Otago, 269; scentless, 28, 65, 208
Mustard and Cress, 475
Myosotis oblongata, 208
Narcissi, 250, 349; naturalising, 192
Narcissus Bonaparte, 117; Capax plenus, 144; Helmet, 179; Michael, 158; Poetaz Elvira, 195; Poeticus ornatus, fl.-pl., 179; Queen of Dawn, 179; Santa Maria, 144; tenuior, 144
National Rose Society's Annual, 183
Nerine description, 2
Nerines, culture of, 490; how to prolong, 501; seedling, 479
Nertera depressa, treatment of, 500
Nettle as a food plant, 112; for pigs, 113
Nettles, destroying, 87
Nierembergia rivularis, 465
Nineteenth century gardening, 69
Obituary: Christy, Captain, 62; Cutbush, Captain Douglas, 168; de Rothschild, Leopold, 216; de Vilmorin, Philippe, 277; Druery, Charles Thomas, 351; Easlea, Private W., 463; Foster, Lieutenant H. L., 241; Hemsley, Alfred, 62; Holland, Lieutenant A. Leslie, 168; Houliston, William, 36; Massee, George, 78; Oliver, Professor Daniel, 10; Ross, Charles, 62; Stredwick, James, 135; Wallace, Captain Dudley, 463
Olearias, nomenclature of, 12
Onion Autumn Triumph, 341; fly, 245, 270; sets, 21, 29, 96
Onions, 145, 163, 228, 312, 361, 427, 444, 454, 490, 493; autumn-sown, 77, 270; heavy crops of, 514; Queensland, 159; sowing, 79; storing, 453; summer, 306; Tripoli, 320, 338; young, 536
Orchards, making the most of, 112
Ornithogalum lacteum, 105
Oxalis spectabilis, 453
Oxted Place and Gardens, 470
Oxydendron arboreum, 391
Pæonia albiflora, 237; lobata, 196
Pæonies, herbaceous, 374
Palm for an intermediate house, 85
Papaver alpinum, 377; hybridum, 381
Parkinson, according to, 22
Parochetus communis, 293
Paronychia capitata, 348
Parsley, 216, 275, 423, 450, 553
Parsnip soup, 454; the, as a source of sugar production, 56
Parsnips, 74, 80, 93, 478; recipe for cooking, 138
Passiflora edulis, 41
Pasture, breaking up old, 535
Pea Clibran's Masterpiece, 522; Edwin Beckett, 64; Glory of Devon, 416, 442, 514; guard, 177; Lord Kitchener, 2; Masterpiece, 497; Peter Pan, 69; Triumphant, 267
Peach culture under glass, 388; Dymond, 367; Peregrine, 367; trees, 101; summer pruning, 297
Peaches, 44, 84, 101, 136, 275, 299, 400, 462; late, 509; outside, 417; pruning, 461; wild, preserving, 437; woolly and sour, 414
Pear Charles Ernest, 373; Gansel's Bergamot, 89; Louise Bonne de Jersey, 416
Pears, 424; cordon, 456; culinary, 130; late, 475; on walls, 203; pickled, recipe for, 456; scab on, 488
Peas, 34, 77, 93, 117, 167, 191, 215, 331; and Beans, preserving, 179; best culinary, 84; early, 553; for clay soils, 352; for drying, 291; for poor soils, 155; intercropping, 332; in trenches, 171; maincrop, sowing, 183; manuring, 141; sowing, 44; trial of, 54
Pelargoniums, 410 496.; well-tried, 441
Père d'Ardéne, 375, 382
Perennials for cut flowers, 510
Philadelphus latifolius, 267
Phlox divaricata, 110; Hoodii, 245
Phloxes, 156
Phormium tenax, 341, 393
Phosphates, value of, 184
Physalis Alkekengii, 465
Pierre Morin, 409
Pine seeds, 137
Pines and Ribes, restrictions on, 403
Pippins, Golden, 466
Plant hunting in Upper Burmah, 346
Plantain, the broad-leaved, 417, 442
Planting in light soils, 183
Plants, collection of, 465; how to collect and dry, 549; for hanging baskets, 253; frozen, 536; hardy, cutting back, 196, 220, 244; selection of, 390; herbaceous, in turf, 262, 343; in steps and pavements, 407; of the High Alps, 176, 200, 226; pillar, 61; staking, 219
Plum Blue Rock, 341; Coe's Golden Drop, 222; Laxton's Utility, 376; Victor Christian, 441
Plumbago Larpentæ, 381
Plums, 275; bush, 405
Podophyllum Emodii, 353; peltatum, 382
Poems: "Pansies," 76; "The Garden of Peace," 431; "The Cottage Garden," 561
Polyanthuses, 70
Polygonum Bistorta, 80, 97; vaccinifolium, 441
Polystichum, how to grow, 192
"Pompon" or "Pompone," 250
Poppies, alpine, 14; annual, 341; Shirley, autumn sowing of, 358
Potato clamps, thatching, 477; Colonist, 393; competition, 415; crop, storing of, 381; culture, 498; difficulties, 96; disease, 201, 231, 247, 257, 465, 541; Dunnottar Castle, 11, 305; Epicure, 64, 329, 354, 393; experiment, 318, 505; Gordon Castle, 479; Great Scot, 541; Midlothian Early, 331, 369, 393, 403, 417, 478; Onions, 537; Order, 501; planting dibber, 443; pudding, 478; sets, chilled, 403, 427; sowing, economy in, 184; substitutes, 71, 120, 139, 150
Potatoes, 108, 117, 138, 203, 461; and lime, 48, 88; and Potato flour, 157; and Sweet Corn, 221; at Maryport Market, 19; Christmas, 38; clamped, and frost, 478; copper sulphate spray for, 136; curious, 442; cutting off tops, 381; cutting seed, 119; digging ground for, 10, 35; drying for storing, 417, 479; early, 35, 345; in South-West Scotland, 47; lifting of, 355; on Devon cliffs, 295; earthing up, 28, 256; from single eyes, 514; greening and sprouting, 56, 72; grown from single eyes, 487; growing in lazy-beds, 128; on rough ground, 78; out, 268, 292; prize, 493, 541; high-priced, 489; hoeing and earthing-up, 236; immune from wart disease, 8, 49; in Buckinghamshire, 383; increasing seed supply of, 37; in dispraise of, 28; in pots, 77; in Worcestershire, 417; large seed, 119; maincrop, sale of, 367; manuring, 28; Midlothian Early, 442; new, 195; at Christmas, 305; old and new, 503; past and present, 391, 401; planting, 149, 393; with a dibber, 342, 368, 383, 417; raising new varieties, 277; retail price of, 47; seed, 501; sale of hand-picked, 364; value of change in, 287; six, for light soil, 49; small, 510; spindly growth of, 258, 280; spraying, 150, 173, 231, 255, 288, 294, 314, 427, 454; Burgundy mixture for, 279; objections to, 279; sprouting maincrop, 68; seed, 12; selection of, 554; storage of, 394; to keep small, 249; to save, 106; treatment of soil for, 85
"Potatos" or "Potatoes," 228
Pot-pourri, making, 300, 324, 330, 352
Primula Allionii, 129; Eureka, 179; hybrids, 521; japonica and Trollius Golden Queen, 299; La Lorraine, 434; malacoides alba flore pleno, 66; nutans, 318; sino-purpureo, 179
Primulas, 325, 410
Privet, vile odour of, 11
Prunus Pissardii, fruits of, 443
Pumpkins, 47; cultivation of, 47
Pycnanthemum muticum, 79
Pyracantha crenulata Rogersiana, 35
Pyrus prunifolia var. coccinea, 400; Sargentii, 428

Queenstown garden, notes from a, 334
Quercus Mirbeckii, 477
Quince (Cydonia vulgaris), 329; Japanese, 513; as a pot tree, 453; Peculiar, 466

Rain, effect of heavy, 334
Ranunculi, French and Persian, 53
Raspberries, 34, 84, 436; after fruiting, 291; how to pack, 313
Raspberry canes, thinning, 223
Rates on war food plots, 312
Redouté, P. J., 76; works, 120
Reseda alba, saving seed of, 232
Resurrections, some autumn, 433
Rhodanthes, old-fashioned, 304, 341
Rhododendron ferrugineum præcox, 27; præcox eaten by hares, 37
Rhododendrons, Chinese, 477; in New Zealand, 249
Rhodostachys andina, 48
Rhubarb, 70, 274, 436, 496; forcing in the open, 53; leaves, 171, 197, 208, 220
Rhubarb, Monks', 300; pills and tarts, 263; The Sutton, 207
Rhubarbs, seven, 310
Richardia (Calla) æthiopica, 180
Rivers and Roses, 469
Riviera, notes from the, 3, 23, 31, 67, 100, 139, 190, 211, 237
Robinia Kelseyi, 224, 292
Rock garden, berried shrubs for, 10; bulbs for the, 369; green of the, 501; in autumn, 453; in winter, 555
Romneya Coulteri, 513
Rosa fœtida=R. lutea, 348; Hugonis, 179; Moyesii in Scotland, 232
Rose Annual, American, 470; Clarice Goodacre, 400; Dunwich, 281, 304, 428; Edel, 297; E. Godfrey Brown, 297; Elizabeth Cullen, 296; Emma Wright, 297; Flower of Fairfield, 513; Frances Gaunt, 400; garden at Croydon, 347; George Dickson, 281; growing in the Western Highlands, 546; Horace Vernet, 551; J. de Escofet, 400; Mermaid, 277, 297; Minnehaha, 465; Miss May Marriott, 277, 297; Mme. Jules Margottin, 388; Moonlight, hedge of, 466; Mrs. George Marriott, 297; Mrs. G. Norwood, 403; Mrs. H. D. Greene, 329; Mrs. Littleton Dewhurst, 309, 404, 428; Mrs. Lyttleton Dewar, 381; Mrs. Redford, 400; Mrs. Stewart Clark, 297; Pax, 297; posers, 359; answers to, 388; Queen Alexandra, 297; Sander's White, 428; season, the, 334; Souv. de la Malmaison, 256; Sunstar, 296; the Altai, 244; Walter C. Clark, 277; William Cooper, 367; York and Lancaster, 409
Rosemary, the Prostrate, 269
Roses, 275; and Lilacs, 244; autumn, 475; Dorothy Perkins and Lady Gay, 469; for pergola, 352; fragrant, 118; handbook on pruning, 63; in pots, 84, 101; in the allotment garden, 471; long-stemmed, 220; manuring, 488; new, at Bagatelle, 285; new, why France was the pioneer in introducing, 291; newer, 484; notable Hybrid Tea, 238; of recent introduction, 13; outstanding in Scotland, 500; planting, 450; Polyantha, 537; pruning, 17, 109, 136, 389; Rambler, 450, 510; red, in 1917, 467; some garden, 468; the best market, 472; the earliest, 208, 220; various, planting distances for, 136; Wichuraiana, autumn-flowering, 473; wild, 469, 484, 546
Rubus Kolleri, 478; nutkanus, 31
Rue (Ruta graveolens), 362
Ruhleben, 66, 72, 243, 564
Rust fungi, 370; White Pine blister, 24

Saccharine for jam-making, 159
Salads, 165, 177
Salsify, 75, 109, 127
Salt of lime, 428
Salvia officinalis, 219
Sap transfusion, 490
Sauerkraut, making, 289
Saxifraga Burseriana, 128; B. Gloria, 117; Fortunei, 501; granulata, 220; oppositifolia, 128; pedemontana cervicornis, 244
Schizanthus, 179
Schizophragma hydrangeoides, 317
Schizostylis, 13; coccinea, the Kaffir Lily, 3
Scilla italica alba, 245
Seakale, 93, 101, 239, 496; Beet, 121, 138, 160, 219; flowers, 195
Sea Pink, 35
Sedum album, 317; brevifolium Pottsii, 369; pilosum, 374; populifolium, 447; pulchellum, 489
Seed, real value of, 501; sowing, success in, 125, 156; tape, 91
Seedlings, self-sown, on a retaining wall, 495; transplanting, 152
Seeds, 279; for 1918 crops, 547
Selenipedium caudatum var. Sanderæ, 179
Shallots, 243; the harvest of, 235
Shrubs, 349; dwarf evergreen, for shade, 63, 510; grafted, 538; planting, 109; protecting, 510; pruning, 178
Silene pennsylvanica, 167, 192
Silver-leaf disease, 383
Slugs, a remedy for, 207, 232; and snails, trapping, 367
Smilax, 70
Snowdrops, autumn-flowering, 4; Galanthus byzantinus and others, 15
Sorrel, the Roselle, or Indian, 108; transplanting for winter use, 367
Sparrows, a crusade against, 151; a word for, 129; in gardens, 271
Sphæralcea pedata, 488
Spinach, 109, 167, 267, 312, 349, 423; as a spring vegetable, 195; winter, 288, 309
Spiræa spikes, 317
Spraying, 84; demonstrations, 149, 183
Squill, the Vernal, 185
Staghurst, the gardens at, 212
St. Anne's-on-Sea, 467
Stems, square, 104
Strawberries, 101, 156, 239, 263, 291, 299, 312, 338; in pots, 84; layering and planting of, 259; soil for, 378
St. Fiacre, 353, 382
Strawberry beds, 134; Laxton's Leader, 338; season, how to prolong the, 259
Subsoil, bringing to the surface the, 79, 104
Sucker growths, removing, 202
Sugar Beet, 119, 433; and Brown Beans, 454, 478; experiments, 87, 96, 105; syrup, 414, 505; war-time use of, 111
Sulphate of ammonia, prices of, 231
Sunflowers, 207
Surface cultivation, 176; dressings, 510
Survivors, the, 472
Swede, Cabbage and Turnip, 103, 121
Swedes, 138, 178, 250
Sweet Pea Alex. Malcolm, 250; Cupid, 329; Elegance, 250; Moneymaker, 42, 48; Mrs. Tom Jones, 250
Sweet Peas, 167, 304, 475; Spencer, early blooming, 352
Symphytum officinale, 138

Tea and war, 535
Telopea speciosissima, 95
Theophrastus, 55
Thorn, Paul's Scarlet, 220, 319
Thyme, increasing, 207
Toads wanted, 490
Tomato Bide's Recruit, 442; culture, books on, 253; grafted on Potato, 342; growing in a lofty conservatory, 404; Kondine Red, 522; maincrop, 353; plants, outdoor, topping, 360; Princess of Wales, 57
Tomatoes, 134, 145, 191, 228, 239, 325, 400, 496, 504, 522; and Potato disease, 269, 305; early, 116; growing in boxes, 101; in pots, 263; in the open, 77, 79, 81, 105, 454, 487; outdoor, in Scotland, 87; side growths, 504; yellow, 235, 331
Tools, garden, 106, 123
Tortoises in gardens, 118
Tree leaves, value of, 532
Tree planting, German prisoners for, 328
Trees and shrubs, grafted, 550; pruning, 61; young, 436
Trencher poems, 192
Trenching, 80, 128, 150, 410, 450, 496
Trollius Ledebouri, 249
Tropæolum speciosum, 398
Trowel, the "Perfect," 273
Tubs, gardening in, 268
Tulip Eclipse, 202; list, an ideal, 417; Nomenclature Report, 337, 489, 502, 514; plantings, 5; tittle-tattle, 214, 358, 399
Tulipa Sprengeri ruminations, 237
Tulipes pluriflores, 132, 151, 160
Tulips, Darwin, 502; height and colour of, 479, 550; in the garden, 420, 435
Turnip flea, a trap for the, 159
Turnips, 137; cold, 221, 232

Valley, an upland, 308
Vegetable and fruit drying, 272, 397; composts, 154; crops, desirability of late, 257; review of, 553; ground, cleaning the, 191; growing, cinematograph pictures of, 172; rotation or repetition in, 533; in war-time, 120; production increased, 51; seeds, English, in the Tropics, 201; for Ruhleben Prisoners' Camp, 171; waste, 140
Vegetables, a housewife's list of, 33; autumn and winter, 475; below an east wall, 136; for sowing during August, 293; for the Navy, 56; growing for the French Army, 516; intercropping, 59; large and small, 172, 197; planting a flower border with, 35; seasonable remarks on, 104; select for 1918, 552; storing of, 411; the growing of, 59, 83, 99, 113, 131, 141, 161; the need for early, 63; to grow in a cold greenhouse, 85; to sow and transplant, 246; watering, 234
Vegetarian dishes, two good, 262
Veitheimia viridifolia, 127
Veronica, the Willow-leaved, 502, 527; Traversii, 383
Vine, Black Hamburgh, at Melchet Court, 415; bleeding, to prevent, 197; on walls outdoors, 528; pruning lateral growths, 265; the Claret, 415; to combat mealy bug on, 85, 384
Vines, 70, 124, 178; early, 61, 109; how to grow without fire-heat, 136, 551; late, 109; planting new, 477; pot, 70; pruning, 521; young, 10
Viola bosniaca, 510; the, in war-time, 356
Violas, 410; how to treat, 253
Violets, double, 167; in frame, 351, 450
Vitis betulifolia, 474

Wahlenbergias, the, 336
Wallflowers, old *v.* young, 195
Water snails in Lily pond, 437, 454
Watkins and Simpson's new premises, 54
Weeding, a word about, 283, 478
Weeds and their destruction, 155, 305, 343, 354; in lawns, 383, 443
Wheat crops, condition of, 149
Winter and war, 424; effects of, 107, 115, 457; flowers, 554, 563
Wireworm, 159, 172, 195, 525, 527
Wood, well-ripened, 233, 256, 293, 355
Woolly aphis, 105

Yew hedges, a caution, 293
Yews and Hollies, planting, 536
Yucca damaged by frost, 124

ILLUSTRATIONS

Aberuchill Castle, 544
Acokanthera spectabilis, 63
Aldenham, intercropping at, 59; pasture, 51
Allotment, a reader's, 345
Androsace glacialis, 227; primuloides, 251
Anemone alpina sulfurea, 200; Pulsatilla, 120, 150
Annuals, 24
Antirrhinum Captivation, 54
Apple Adam's Pearmain, 506; Annie Elizabeth, 91; Belle de Boskoop, 460; blossom, 196; Calville Blanc, 506; Ellison's Orange, 474; Houblon, 455; Newton Wonder, 422; Orleans Reinette, 351; Peasgood's Nonsuch, 432; Rev. W. Wilks, 412; Rival, 460; St. Everard, 416; Tom Putt, 197; tree, grafted, 344; White Nonpareil, 506; William Crump, 65
Apples, collection of, 433
Apricot Spurs, 561
Arenaria balearica, 42
Artichokes, Jerusalem, 537
Arum, Red, outline of, 280
Asparagus, giant, 221
Aster alpinus, 264; Thompsonii, 373
Azaleas at Weybridge, 207
Barberry fruits, 538
Bean, Dwarf, Reliance, 153; French, Earliest of All, 257; Longpod, 214; Runner, Hackwood Park Success, 164
Beans, Broad, Leviathan, 215; Runner, in pots, 131; row of, 98; staking, 140, 174
Beetroot Crimson Globe, 44; Sutton's Green Top, 522
Border, Munstead Wood, 21
Bramble, spray of, 280
Brassicas, clubbing in, 480
Brasso-Lælio-Cattleya Lady Manningham Buller, 521
Broccoli, the Hardy Christmas White, 37
Brunsvigia Josephinæ in full flower, 550
Brussels Sprouts, 175; club root on, 449; Dwarf Gem, 96
Bulbophyllum Ericssonii, 436
Cabbage, Chinese, 353; Dwarf Green Curled, 258; planting, 172
Cabbages for spring, 333
Camellias in the open, 3
Campanula pulla, 356; Raineri, 357; × pulla, 357; rupestris, 219
Carbenia benedicta, 543
Carnation Border Yellow, 520; Countess of Wilton, 61; Red Ensign, 43; Wheatear, 513
Carrot Intermediate, 246; New Intermediate, 283
Carrots, seedling, after thinning, 165; overcrowded, 165
Caryopteris Mastacanthus, 477
Catalpa bignonioides, 398
Cattleya Astron The Dell Variety, 499
Cauliflower Reliable, 111; Standwell, 275
Cauliflowers, seedling, 186
Ceanothus divaricatus, 518
Celery, blanching, 87, 282, 283, 370; fly, 188, 234; grown between Asparagus, 394; intercropped, 321; planting, 247
Cerastium tomentosum, 243
Chantarelle, 371
Cherry, Morello, double, 184
Chicory, French, 157
Chionanthus virginica, 507
Choco, the, 310
Chopper, home-made Nettle, 113
Chrysanthemum Donald, 499
Clematis Armandi, 519; grafted, 515; recta, 391; showing "die-back," 491
Codonopsis ovata, 312
Colewort, the Hardy Green, 258
Cordyline australis, 318, 319
Cordylines, a group of, 293
Corydalis ochroleuca, self-sown, 407
Crab, Japanese, 203
Cragwood, Windermere, 396
Crane-fly, 58
Crocus chrysanthus Warley Variety, 100
Crocuses, drifts of, 138
Currants, Black, big-bud on, 28
Cyclamen Cherry Ripe, 168
Cydonia Maulei, 513
Daffodil bulb attacked by Fusarium, 189; Cassandra Seedling, 322; Distingué, 178; Heather Perfection, 30; Sybil Forster, 322
Dahlias, Mignon, 413
Daphne, afte Parkinson, 563
Deutzia Vilmorinii, 224
Dianthus Allwoodii, 16
Dracæna garden, 335
Drill, making a, 172
Dryas octopetala, 176
Duckweed, 418; skimmer for, 481
Earlham Hall, 114, 115
Eelworm, 188
Endive, Batavian, sowing, 291
Erinus and wild Geranium, 407
Eritrichium nanum, 226
Erodium Chamædryoides, 82
Eryngium Oliverianum, 411
Eustoma Russelliana Ellisii, 376
Flax, New Zealand, 393
Flower-bed, useful, 419
Food Production Conference, members of, 438
Foxgloves, self-sown, 361
Freesia La France, 71
Fritillaria aurea, 166
Fruit-picking ladder, 406
Fruit tree label, 273
Fruit trees, winter moth on, 234
Galanthus Elwesii, 4
Garden, blue and mauve, 372; in Japan, 530, 531; old walled, at Nailsea Court, 22; wall, 75
Gastrolobium cordifolium, 76
Genista virgata at Monreith, 285
Gentian, the Willow, 446
Gentians and Saxifrages, 192
Geranium atlanticum, 143
Glen Clova, 386
Glyceria aquatica, 311
Gooseberries, protecting, from birds, 112
Gooseberry Lancer, 492
Gourds, young, 304
Grapes, Black Hamburgh, 529; in an amateur's vinery, 551; Moore's Early, 528
Halesia tetraptera, 211
Heath, Irish, 372
Helleborus altifolius, 559
Heracleum Mantegazzianum, 387
Herb walk at Abbeyleix House, 542
Hibiscus Sabdariffa, 108; Waimæa, 427
Honey, 497
Hornbeam hedge, 403
Hotbed, making a, 532
Hydrangea Hortensia, 308
Hyoscyamus niger, 133
Illicium religiosum, 232
Indian Corn, 435
Insects that help the gardener, 198, 199, 210, 211
Iris Dorothea, 248; garden at Weybridge, 208; Juno, Rosenbachiana, 323; Leucothœa, 40; reticulata Cantab, 107; Ringdove, 225; Snow Queen, 298
Irises at Colchester, 286
Jacobinia chrysostephana, the golden-flowered, 33
Jasmine, the Winter, 554
Judas Tree, 139, 161
Juniperus phœnicea, 457
Labels, useful, 273
Lachenalia Rosemary, 349
Lavender, an edging of, 303
Leeks, 255; blanching, 282; at Aldenham, 395
Lettuce between Celery, 279; Holborn Standard, 332
Leucojum vernum carpaticum, 103
L'exercice de la Baguette, 399
Lilac Ellen Willmott, 224
Lilium giganteum, 284; Krameri in wood, 545; nepalense, 420; speciosum × auratum, 359
Lily, an unnamed, 405
Lonicera Maackii, 549
Maize cob, 160
Mandrake and fox-terrier, 180
Marrow bed, 272; Rotherside Orange, 320
Marrows and Pumpkins, 428; Custard, 236; in seed-box, 209; on poles, 307; watering, 261
McGran, James, 7
Meconopsis quintuplinervis, 373
Meliosma cuneifolia, 355
Mertensia primuloides, 274
Mesembryanthemum Bolusii, 508; tigrinum, 508
Michigan, a formal garden in, 483
Molyneux, E., 7
Moræa papilionacea, 1
Mounton House, Tiarella and Saxifrage at, 142
Mushrooms, gathering, 384, 385; in the open, 185
Musk, fragrant, owner of, 269
Narcissi, white, beneath Plum blossom, 459
Narcissus Poetaz Elvira, 195; Queen Anne's double Daffodil, 145; Santa Maria, 144; tenuior, 145
Nerines, a pot of, 458
Nut tree, 517
Olearia macrodonta, 334
Onion and Cabbage plants, 516; Autumn Triumph, 341; bed, 444; fly, 245; plantation, Aldenham, 306; Record, 270; set and bulb, 29
Onions Ailsa Craig, 163, 493; Cranston's Excelsior, 163; drying, 445
Onosma tauricum, 93
Ornithogalum lacteum, 55
Oxted Place, 470, 471
Pæonia albiflora The Bride, 237
Pæonies, herbaceous, in grass, 262
Passiflora edulis, 41, 327
Pea and Bean weevils, 234; Carter's Daisy, 553; Dwarf Peerless Marrowfat, 17; Edwin Beckett, 64; Johnson's Perfect Marrow, 331; Lord Kitchener, 2; Senator, 121, 141; Sutton's Early Giant, 552
Peas growing on wire-netting, 162; sowing, 172
Peach Royal George, 388
Pear Doyenné du Comice, 448; Gansel's Bergamot, 89; General Todleben, 130; house at Allington, 461
Phlox canadensis Laphami Perry's Variety, 123
Phloxes and gateway, 545
Pieris formosa, 408, 409
Pinks, Heucheras and Alyssum, 83
Plan of Rose garden, 9, 20, 38; small garden 39, 60, 94
Plant hunting in Upper Burmah, 346
Plum Coe's Golden Drop, 222; suckers, 202; Victor Christian, 441
Pool and statues, 154
Poppies, Shirley, 358
Portraits: Christy, Captain, 62; de Rothschild, L., 216; Druery, C. T., 351; Massee, George, 7; Maxwell, Sir Herbert (*Dedication*) Orpen, O. G., 463; Ross, Charles, 62; Schneider, George, 18; Stredwick, James, 135
Potato Dunnottar Castle, 11; 305; Eighty-fold, 50; freaks, 443; Golden Wonder, 329; Gordon Castle, 479; growing out, 268; Harbinger, 73; Marsland Queen, 50; Midlothian Early, 369; Prosperity, 25, 503; Queen Mary, 50; second growth of, 292; superfluous shoots, 68; The Chapman, 49; The Colleen, 49; tubers, greening, 462
Potatoes at Aldenham, 271; earthing up, 173, 260; lifting, 173; May Queen, 514; planting, 172, 318; preparing ground, 149; seed, 172; spraying, 173, 267, 294, 295, 314; sprouting, 12, 68; storing, 462; wind screen for early, 95
Pot-pourri, making, 324, 325
Primula Allionii, 129; Eureka, 179; La Lorraine, 434; nutans, 298
"Product, ye, of ye hottest climate," 151
Pumpkin The Mammoth, 47
Quince, Japanese, 453
Ranunculus glacialis, 226; pyrenæus, 201
Raspberry canes, thinning, 223
Reinwardtia tetragyna, 32
Rhododendron ferrugineum præcox and Genista hispanica, 27; Marquis of Lothian, 249; Oreotrephes, 557
Rhodostachys andina, 48
Rhubarb, forcing, 53; Monk's, 300
Ribes divaricatum, 29
Rock garden, 122, 372
Rosa Hardii, 547; Hugonis, 179; microphylla, hips of, 484; Moyesii, 232; hips of, 484; setipoda, hips of, 484
Rose Augustus Hartman, 238; Austrian Briar, 348; Charles E. Shea, 485; Christine, 13; Dorothy Perkins, 473; garden at Croydon, 347; George Marriott, 296; Hellebore, 23; Lady Alice Stanley, 546; leaf attacked by black spot, 289; Margaret Dickson Hamill, 238; Mermaid, 297; Minnehaha, 465; Mrs. Bertram Walker, 238; Mrs. Charles Russell, 472; Mrs. Littleton Dewhurst, 309; Mrs. Redford, 400; Nellie Parker, 14; Reine Blanche, 468; Souvenir de la Malmaison, 256; The Garland, 468
Rosemary, creeping, 92
Roses, red, 467
Rubus Kolleri, 431; growing over wall, 430; nutkanus, 31
Rue in flower, 362
Ruhleben garden, 564, 565
Rustic lore, mine of, 442
Salvia Sclarea, 483
Savoys, planting, 281
Saxifraga Burseriana, 128; Gloria, 117; peltata, 143
Saxifrages and Hoar Frost, 555
Screen, the, at Chelsea, 155
Seakale Beet, 121
Sedum album, variety of, 317; brevipes, self-sown seedlings of, 495; pilosum, 374; populifolium, 447; spectabile, 495
Seed bed, sowing, 260; boxes, 125; testing station, 501
Seedlings before transplanting, 152
Shallots, storing, 235
Shears, 265
Silene pennsylvanica, 167
Slugs, trapping, 367
Snowdrop, Galanthus byzantinus, 51
Snowdrops in woodland, 67
Soil analysis, 456
Soldanella alpina, 200
Sparmannia africana, 6
Staghurst, house and garden, 212, 213
Stargroves, orchard at, 535
Strawberry layer, rooted, 259; Leader, 338
Styrax japonica, 381
Temple at Kew, 368
Thalictrum dipterocarpum, 326
Tomato Early Market, 81; Holmes' Ideal, 185; Ipswich Giant, 504; Magnificent, 187; Moneymaker, 181; outdoor, 360; Potato plant, 342; Princess of Wales, 57; Recruit, 415, 505; Regina, 79; seedlings, 116; winter, 505
Trianon Gardens, Versailles, 516
Trifolium pannonicum, 97
Trillium grandiflorum, 285
Trowel, "Perfect," 273
Tulip Coronation Scarlet, 337
Tulipes pluriflores, 132
Tulips at Weybridge, 208; in parkland, 421; late, 5
Turnip flea-beetles, 159; White Milan, 186
Veltheimia viridifolia, 127
Veronica angustifolia, 527; salicifolia, 527; Traversii, a hedge of, 383
Viburnum Tinus lucidum, 489
Vineries, mixed, 233
Viola calcarata, 177
Wahlenbergia Pumilio, 336
Walnut, Manchurian. 525
Wasps, work of the, 343
Watkins and Simpson's new premises, 54
Winterdyne, Bewdley, 494
Wireworms, 58, 159
Wisley Laboratory, 99
Wistaria, 190
Zenobia (Andromeda) speciosa, 19

POULTRY

Appetites, keep, keen, 126
Appliances, rearing, 290
Birds, newly purchased, 126
Bone, green cut, 242
Breed, selecting a, 102
Calico, a waterproof, 290
Canary seed, 242
Changes, avoid sudden, 126
Chicks, an eye on the, 148
Chills, autumn, 464
Colds, suffering from, 426; to ward off, 426
Crop, massaging the, 440
Crops, examine the, 426
Crossing, value of, 464
Culture, intensive poultry, 86, 102
Day-olds, sex in, 464
Death, cause of, 440
Digestive disorders, 440
Drones and workers, 102
Eggs and chicks, 366
Eggs, forcing for, 278: preserve, 278; scarcity of, 278; *versus* moult, 254
Exercise, scratching, 126
Feeding, clean, necessary, 230; grain, 126; injudicious, 440; methods of, 147, 266; ready for, 147; without grain, 204
Flocks, even, 366
Food, animal, 242; restrictions, 278; values, 242
Foods, other, 242
Foodstuffs and how to use them, 230
Fruit, fallen, 464
Gizzard, action of the, 266
Grain and soft food, 266; how to give, 126; sprouted, 126
Grains, brewers', 218; the smaller, 126
Greenstuffs, 242; how to give, 230
Hens for winter laying, 254
Hoppers, dry mash, 266
Hospital, interior of, 440; the hen, 440
Housing, attend to, 426; question of, 464
Internal arrangements, 290
Laying, to prevent, 254
Leghorns, White, 102
Light, going, 440
Limewashing, 290
Maize, 126; green, 218
Male, the utility, 102
Males, choice of, 102; the, 278
Mash, selecting a dry, 266; the dry, 278
Methods, artificial, 86
Moult, late, 278; the coming, 254
Moulting, late, 254
Mustard and Cress, 218
Nesting, trap, 102
Oats, treating the, 126, 147
Oilcakes, use of, 218
Organs sweet, keep the, 440; the digestive, 266; weak digestive, 266
Outings, occasional, 254
Overheating, avoid, 148
Plant, overhauling the, 290
Poisoning, symptoms of, 464
Poultry-keeping, backyard, 86
Preparations, timely, 148
Pullet, the laying, 366
Pullets, forward or backward, 366; *v.* hens, 366
Quarters, permanent winter, 366
Quietude necessary, 366
Ration, a day's, 218
Rearing, artificial, 148; for early, 148; outdoor, 148; systematic, 366
Roof, the 290
Roots, the use of, 230
Roup, danger of, 426
Run, the, 148
Sitters *v* non-sitters, 102
Sprouting boxes, 147
Stocks, reducing, 278
Sunflowers, 159
Sunshine and fresh air, 86
Sussex, praise for the, 464
Table crosses, 464
Tarring, 290
Temperature, 147
Tools needed, 290
Ventilation, 426
Weather, changeable, 426
Wheat, 126
Work-shed, a, 290

ILLUSTRATIONS

Chickens, day-old, 147
Crosshill Farm, 254
Ducks, White Runner, 278
House, intensive, 102
Orloffs, Mahogany Russian, 148
Rhode Island Red, 440
Sicilian Butttercup, 426

SOME FLOWERS OF WINTER.—II

THE MEZEREON AND ITS MESSAGE OF HOPE.

BEFORE you come for a stroll—or what John Burroughs in "The Exhilarations of the Road" calls "a gleesome saunter"—round my garden this winter's morning, I want you to light your pipe (provided Mr. Duncan Pearson is not looking!) and glance at this scene from "King Henry V.," in which Shakespeare transports us to a room in the Palace of Rouen, where the French King, the Dauphin, the Duke of Bourbon, the Constable of France and others are gathered together in council.

"*French King.* 'Tis certain he hath pass'd the river Somme.

"*Constable.* And if he be not fought withal, my lord,
Let us not live in France; let us quit all,
And give our vineyards to a barbarous people.

"*Dauphin.* *O dieu vivant!* shall a few sprays of us,
Our scions, put in wild and savage stock,
Spurt up so suddenly into the clouds
And overlook their grafters?

"*Constable.* *Dieu de batailles!* where have they this mettle?
Is not their climate foggy, raw and dull;
On whom, as in despite, the sun looks pale,
Killing their fruit with frowns?"

And now that you have studied this passage, we will start on our round, each with his mind in a meditative mood like that of Alphonse Karr's, which will allow us to draw all sorts of analogies from what we have just read.

I do not know what you are thinking about, my good companion, but my own thoughts have wandered away to our soldier-gardeners in France, who, though they have long "passed the river Somme," have many weary miles to march before the fruition of their labours becomes apparent. The civilian-gardener, too, has "passed the river Somme," for the shortest day has come and gone, and soon he must begin anew his year's work and play his part in the great world struggle by performing what the Russian writer Bóndaref calls "bread-labour" ("In the sweat of thy face shalt thou eat bread"); thus it may be said of each one of us that is not fighting, "totus et mente et animo bellum insistit."

But "man does not live by bread alone," and though in my garden you will see rows of well-blanched Leeks and Celery, and patches of hefty Cabbages and Sprouts—unlike those that William Morris tells us grew in John-a-Wood's garden:

"There, in a clearing of the wood,
Was John's house, neither fair nor good.
In a ragged plot his house anigh
Thin coleworts grew but wretchedly."

—you will also notice that I grow those flowers that provide food for the soul, as Mahomet says of the Narcissus. Most of these are yet asleep, but there are others that vie with the Winter Jasmine in endeavouring to keep the garden gay during those drear months when the swallows are sunning themselves on the minarets of the Great Mosque of Morocco. Chief among these, and one of the most lovable of plants, is the Mezereon (or Mezerion), which Cowper, in his "Winter Walk at Noon," describes as

"Though leafless, well attired, and thick beset
With blushing wreaths, investing every spray;"

Please to come and look at my little group of plants, and you will see that it comprises half a dozen of the common kind with flowers that nearly resemble those of a Peach in colour ("pink silky," one writer calls it), and the same number of Paul's Snow White, a peerless variety that came to me from Cheshunt; in beauty far

THE MEZEREON (AFTER PARKINSON, 1629.)
(*From a drawing by Mrs. Arthur Goodwin.*)

before the ordinary white forms that most nurseries purvey. On mild days like to-day, from December to March these bushes just below my drawing-room window perfume the air (if it were not for your attachment to "My Lady Nicotine" its fragrance would enchant you!) for a considerable distance with the scent of its odorous, honeyed, stalkless flowers, clustered usually in threes on the upright, leafless branches, making a delightful picture with Snowdrops just peeping beneath them. It would only have been a transmigration from one state of ecstatic loveliness to another had the nymph beloved of Apollo (from whom the genus derives its name) been allowed to select the plant into which she was to be metamorphosed, and her choice (as well it might) had fallen upon Daphne Mezereum.

Unless the season is a severe one, the branches after flowering are soon thickly set with berries, at first green, then ripening in September to red in the common variety and yellow in the white. The whole shrub is poisonous to human beings, especially the berries, which are very acrid and cathartic (purgative), though finches and robins find them as much to their taste as does the cuckoo when he gobbles up a caterpillar with stinging hairs. In "Gray's British Plants" (1821) the berries are said to be corrosive, and a gruesome story (surely of interest to gardeners who are doctors!) is told that "gr. xij killed a young woman immediately." Personally (like the September baby) I prefer stories with a happy ending, like that of the lady in "A Dream of Fair Women,"

"Who kneeling, with one arm about her king,
Drew forth the poison with her balmy breath,
Sweet as new buds in Spring."

The bark and branches were used at one time for making a yellow dye, and, according to Gray, "when chewed cured a palsy of the tongue." He might well have added that "when chewed they excite an insupportable sensation of burning in the mouth and throat," which is the testimony of another writer. In this case it is evident that he detested the medicine yet desired the cure. The leaves, according to numerous writers, have been used for blistering, but I am unable to say whether the plant has a place in our modern pharmacopœia. A ready mode of increasing this Daphne is to sow the seeds immediately they are ripe, and I am glad to be able to tell you that Paul's Snow White variety comes quite true from seed and soon makes nice little bushes.

To Parkinson the Daphne family was known as Chamælæa, and the plant we are discussing is called by him "Chamælæa Germanica sive Mezereon floribus dilutoris coloris et saturatioris. Dwarfe Bay, or flowering Spurge Olive." As usual, his description is very apt, and the illustration that accompanies it is of equal excellence: "We have two sorts of this Spurge Olive or Dwarfe Bay, differing onely in the colour of the flowers. They both rise up with a thick wooddy stemme, five or six foot high sometimes, or more, and of the thicknesse (if they be very old) of a mans wrest at the ground, spreading into many flexible long branches, covered with a tough grayish barke, beset with small long leaves, somewhat like unto Privet leaves, but smaller and paler, and in a manner round pointed: the flowers are small, consisting of foure leaves, many growing together sometimes, and breaking out of the branches by themselves: in the one sort of a pale red at the first blowing, and more white afterwards; the other of a deeper red in the blossome, and continuing of a deeper red colour all the time of the flowring, both of them very sweete in smell: after the flowers are past, come the berries, which, are greene at the first, and very red afterwards, turning blackish red, if they stand too long upon the branches: the rootes spread into many tough long branches, covered with a yellowish barke . . . It is generally called Mezereon, and is indeede the true Mezereon of the Arabians, and so used in our Apothecaries shops, wheresoever the Arabians Mezereon is appointed . . . ."

He does not say that the plant is a native, but that "the first sorts growe plentifully in many places of Germany," and "are most usually in flower about Christmas, or in January, if the weather be not violent, and sometimes not until February."

BRITISH GARDENING IN A GERMAN CAMP

BY MISS K. HUGHESDON.

"SOIL is scarce; manures are scarcer still, but if we each help the other we shall be able to make the very most and very best use of what is at our disposal and ensure the ultimate success of the society's aims."

The above extract is from the *Ruhleben Camp Magazine* for June, 1917, the editor of which has allotted a certain amount of space to the doings of the Ruhleben Horticultural Society. Our exiled brothers formed the "R.H.S." in October, 1916, and as one of the members expresses it, "at that time we possessed nothing." However, organised effort by barrack gardeners and other enthusiasts achieved a notable success in the first Bulb Show, held on April 7, 1916, a success the more gratifying in that the winter 1916–17 had proved one of the most trying on record. Hyacinths, Daffodils, Narcissi, &c., were eagerly bought up by "the man in the camp" to beautify his barrack, and had the "R.H.S." been able to supply twice the number of blooms, the Ruhlebenites would have bought them all. Glowing descriptions were forthwith written to interested friends in England, with prophecies of further beauties of the Summer Show to come—these latter coupled with the expression of a pious belief that the claims of "Little Mary" would not be forgotten. This hope was justified. As a youthful sailor-boy, writing at the end of June, put it:—"We lined up in turn in Bond Street for horticultural produce, and bought Lettuce, Radishes and Spring Onions to eat with our corned beef, and—it just *rolled* down!"

The plan alluded to in the *Camp Magazine* for "supplying all barrack and public gardens with plants of all our homely English flowers raised from seeds from the Old Country" promised employment and pleasure to scores of willing amateurs, at whose disposal professional advice was placed freely and gladly at all times. The Summer Show (August 3 and 4, 1917) was an unqualified success. Prizes were awarded for barrack gardens and public gardens, and a special award of merit was made in favour of the "rock garden near the wash-house."

The extremely interesting photographs to hand include views of the vegetable garden, showing long rows of sturdy Tomato plants; the nursery potting shed, nursery greenhouses and frames, Rose bed, invalids' garden, numerous barrack and public gardens, &c.

The heart of "the man in the camp" seems to have gone out principally to the Sweet Pea exhibit in the "R.H.S." Summer Show; after which the Melon exhibit made perhaps the greatest impression. Incidentally, it may be mentioned that these Melons fetched 8 marks 50 pfennigs each—

A BAR CORNER IN THE PRISON GARDEN.

weight 3½lb. To quote the sailor-boy once more: "The whole collection of vegetables grown on the field was grand, and the flower show was a fine sight to see."

Photographs of the society's exhibits of vegetables, grown from seed supplied by the Royal Horticultural Society, London (to which the Ruhleben Society is affiliated), shows what can be done by the genuine enthusiast, even when handicapped by the adverse conditions alluded to in the opening paragraph.

Readers will be interested to learn that the greenhouse and frames were made by interned workmen, packing-cases, &c., of all descriptions being made use of in the camp joiners' shop, where this work was carried out. By degrees the frame accommodation amounted to 56 square yards, and eventually about 20,000 Lettuce, Cabbage and Cauliflower, 1,500 Celery and 150 Marrow plants were raised for the vegetable garden, while 600 Tomato plants were forthcoming for outdoor cultivation. Plants of all kinds to the number of 20,000 were supplied for barrack and public gardens, in addition to the early spring flowers and bulbs.

The financial side of the undertaking is not without interest, and the society's report informs us that 1 mark was fixed upon as the membership subscription, 921 Ruhlebenites enrolling themselves before the end of the summer.

All the work in the flower department has been voluntary, with the exception of that of two men, who each receive the sum of 8 marks per week for his services.

The vegetable garden covers about 5½ acres of land, and the society's rental of this is fixed at 100 marks per month. To this part of the undertaking a permanent staff of twelve men was allotted, and the wages paid were 8 marks per week for skilled and 7 marks per week for unskilled labour. Sufficient voluntary assistance was always to hand whenever it was required; in fact, a number of the interned have worked voluntarily all the season and thus helped to materially reduce the wages bill, besides doing useful work.

The report also mentions that various arrangements have been made with regard to seeds, &c., and to such manures, artificial and others, as may be obtainable; and the belief is expressed that the digging operations, which were to be recommenced as soon as the crops were off the ground, would ensure as far as possible the prospect of still better crops next year.

Y.M.C.A. GARDEN AT RUHLEBEN.

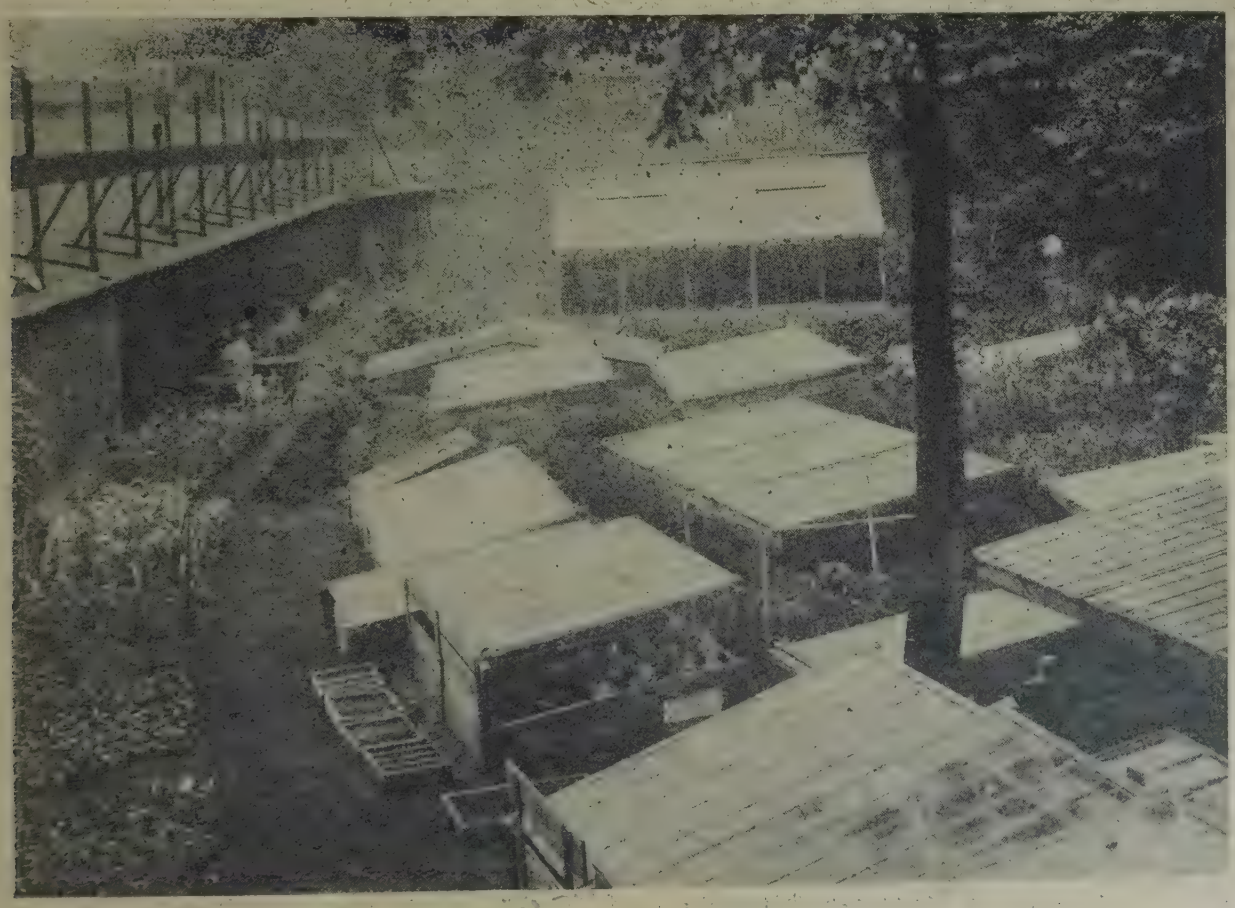
SWEET PEAS AT THE RUHLEBEN SUMMER SHOW, AUGUST, 1917.

A Fine Display of Annuals

SOME years ago, one of the most successful flower gardeners in the country was asked how he managed to have such a grand lot of annuals every year in his garden borders. He replied, "Because I give them the same careful attention as I do the Rose or any other choice flower." Undoubtedly, good cultivation is essential if we are to have fine borders of annuals. Too often these plants are allowed to struggle to the flowering stage in an unsuitable rooting medium and in an overcrowded condition. It may be well enough to sow seeds thickly in the open borders in the case of hardy annuals, but early and judicious thinning out is needed if the plants retained are to grow robust and bear the best flowers possible. Some of them, too, must be well, but neatly, staked.

REPRODUCED FROM THE "RUHLEBEN CAMP MAGAZINE."

Half-Hardy Annuals.—It is neither necessary nor advisable to sow the seeds of these very early, because the resultant plants require protection in cold frames for a time, and these are not too numerous nor to be spared for such plants at the season when needed, as they will be occupied by other subjects; and if kept unduly long in a greenhouse temperature the young seedlings are considerably weakened. I have for many years made considerable use of temporary frames. The seeds are sown in pans and boxes, and placed in a warm frame or on a shelf in a greenhouse. The bulk of the kinds being raised during the latter half of March, the compost used was made up of fibrous loam and leaf-soil in equal proportions, with road grit or coarse sand. In the meantime, some boards, about 1 foot deep, were placed on edge and nailed together to form a rough frame in a sheltered position in the vegetable garden. It was only necessary to put a thin layer of well-rotted manure on the surface, and a similar one of sifted leaf-soil, to be lightly forked in and then neatly raked. Directly the seedlings were large enough they were transplanted, a few inches apart, in the bed and covered for a week or so with loose glass lights. Afterwards mats and scrim were used, and the young plants grew strong, possessing tufts of roots, and were, in due course, in excellent condition for planting in their flowering quarters. They were always more satisfactory than those raised and retained in boxes to the stage of growth referred to.



THE PRISON NURSERY, AS SEEN FROM POTTING SHED.

Hardy Annuals.—In clayey soils hardy annuals do not make good progress while in the seedling stage, and I have found it a good plan to sow the seeds of many kinds in the temporary frame, transplant, and finally replant the resultant seedlings in the flower borders. Again, where heavy loams obtain and the seeds have perforce to be sown in the flowering quarters, I have proved it to be a decided advantage to use road grit obtained from roads on which motor-cars do not pass, mixing it with the ordinary soil on the surface to give the seedlings a good start. When once established and growing thinly, annuals usually do remarkably well. It is during the infant stage that extra care is needed, and must be given if success is to be assured.

B.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Successes and Failures.—With the close of the year the careful cultivator takes stock of the successes and the failures, and wisely makes plans to remedy defects in cultural details. One error commonly made is in not allowing sufficient space for the various crops to fully develop the stems and foliage. Without a full opportunity to develop their leaves so that maturation is assured, how can crops be successful? Potatoes and Peas are two examples of what ill results accrue for want of space. Other common faults are in sowing the seed too thickly in the rows and in not removing the surplus plants promptly so that those remaining may grow more sturdily. The need of surface stirring of the soil is also traceable to non-success, especially during a spell of dry weather, when perhaps the plants are suffering from the want of moisture at the roots. Next to soaking the roots thoroughly and mulching afterwards, surface stirring of the soil is important. Such points as I have briefly alluded to may be useful to the inexperienced in the future.

Brussels Sprouts.—Remove all decaying leaves from the plants, as, if allowed to remain, the rotted particles adhere to the Sprouts and spoil the appearance of the crop. Do not remove the tops of the plants until all the Sprouts have been gathered. Some advise that this should be done, under the plea that more Sprouts are procured by the check given to the top growth of the plant.

Potatoes for the earliest-forced crop should be stood on end to sprout in a temperature of not less than 50°, afterwards placing them in a compost, largely composed of decayed leaves, in large pots or boxes.

Globe Artichokes should have ample protection around the collars of the plants. This should consist of freshly gathered leaves, surfaced with strawy litter to prevent the leaves being blown away.

The Flower Garden.

Lawns.—Where new lawns are to be made or alterations suggested, or where one is not satisfactory, wet, perhaps, or heavily infested with moss, now is the time to make a preliminary start. A wet lawn can only be remedied by drainage, either by laying pipes with an accurate fall, or by trenching the soil 2 feet deep. This method has much to recommend it, especially where seed is to be sown in April, as this deep disturbance of the soil ensures freedom of growth in the grass. If the soil preparation is made now, the soil will have settled down to somewhat near its natural level when the time comes to sow the seed. Where new turf is to be laid on a satisfactory site, no time should be lost in doing so, as the turf will have taken well hold of the soil before hot and perhaps dry weather sets in during the month of May. Some people cut the turf for lawn-making much too thick, which only increases the cost of carriage; an inch or so is ample. Before laying, any weeds present should be removed, thus saving time later on.

The Herbaceous Border.—A mulching of half-decayed leaves, vegetable refuse, spent materials from a Mushroom-bed, with wood-ashes and a sprinkling of soot, will be an immense gain to the subsequent growth of such subjects as perennial Phloxes, Heleniums, Rudbeckias, &c., as this compost encourages sucker-like shoots with ample surface roots to push from the clumps and grow away vigorously next spring.

The Alpine Garden.—Sprinkle fine soil, leaf-mould and wood-ashes about the roots of alpine Phloxes, Aubrietias and such-like subjects as an inducement to these plants to produce sucker-like growths.

Fruit Under Glass.

Melons.—To have ripe fruit in May, the seed should be sown quite at the end of the month in a brisk bottom-heat and in a temperature of not less than 60°. Sow one seed in a compost of half loam and half leaf-mould in a small pot. If the soil is moist, as it should be, water will not be required until the plants show through the soil. When the pots are full of roots, transfer the plants to larger pots and give them a position close to the glass to ensure sturdy growth.

Planting New Vines.—Now is a good time to make new borders to ensure the soil settling down to near its normal level when planting is done in February. All Vine borders should be inside where possible, as the roots are much more under control and success in producing good Grapes more assured. Too many borders are made too deep. Two feet of soil, with 6 inches of broken bricks for drainage, is ample, as top-dressings can be added when necessary to give a fillip to growth.

E. MOLYNEUX.
(Steward to W. H. Myers, Esq.)
Swanmore, Hants.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—Should this crop have been properly treated, the only care it requires meanwhile is to see that it is picked over with discretion, taking a leaf here and there and not stripping any plant. Those who have tried a large-leaved variety against the old "prickly" and given each plant plenty of room to develop will now be in a position to estimate the very great value of the former compared with the latter. Plants of the latest sowing should not be gathered from till the winter is past and new growth has sprung.

Seedlings in Frames, such as Cauliflowers and Lettuces, will need examining lest mildew should gain a footing, and, if it has, sulphur should be applied. Chickweed in light soils is apt to grow very vigorously among these during winter, and should also be seen to. If damp has caused any low vegetation to grow on the surfaces, it must also be removed, and sand that has been well heated spread evenly over the latter. This will usually be sufficient to carry on till the spring. Hot lime is another aid at this moment that may be applied instead of sand, should the latter not be clean.

Composts.—The omnium gatherum of all kinds that has accumulated during the year should be shaken up and turned at times when other work is impossible. If raw, a small addition of hot lime mixed throughout is of advantage. Two year old material not yet reduced to soil should also be turned, when a few months will render it fit for use. It is a question whether this material is of greater value dug deep into the ground or kept near the surface. My own experience leads me to keep it on the surface in the form of a mulch, but the soil here is light, and on heavy ground it may be better to bury it.

Potatoes.—For forcing early, the seed should be brought out of the store and placed in a pit where there is a slight heat above normal. I rather like to set the tubers on a little rough leaf-soil, with some of the same material scattered among them. If space for boxes is limited, it may be found in beds where other plants grow. I do not think it is any disadvantage to allow the roots to push among the soil or leaf-mould previous to planting permanently.

Fruit Under Glass.

Early Grapes.—The vinery should now be kept close with a slight heat in the pipes, so that the temperature may range between 45° and 55°. It is usual to syringe the Vines twice daily, but this is of no advantage, and, as a fact, tends to lower the temperature. A dodge I have seen in forcing days, when the glass registered a degree or two above the rigid number of degrees that was deemed essential, was to flood bare spaces with water, when the correct degree quickly appeared; and we know that water is used to lower temperatures in hot weather. So I have no regard to keeping up what is merely a theory at the expense of applied heat.

Peaches and Figs.—These may be treated in a similar manner to Vines for the present, with the difference that the latter should have the borders under-moist in the meantime, while the Peach-buds would certainly drop were the borders not in a moist condition. A slightly lower temperature may also be given, while the Fig needs a few degrees higher.

Vines for Planting.—Strong plants are best for this purpose, and in the meantime, or, indeed, till they are ready to be planted, they are best in a cool structure. The rods should be shortened to the length required, which depends upon the height of the front portion of the vinery, though nothing is lost in the end by pruning fairly closely to the base. The Vines are ready to plant when the buds have swelled almost to the point of bursting. It is not desirable to plant Vines in a dormant condition, as it is not unusual for them to refuse to grow at all. Little water at the roots will be needed for some time, otherwise the roots may decay.

Plants Under Glass.

Ferns.—Most Ferns should be in a much cooler atmosphere until new growth begins than they needed while growing. Root dryness is also important for many, the common Adiantum cuneatum, for instance; while the numerous forms of Nephrolepis exaltata need occasional waterings only. Hardy Ferns grown in pots cannot be kept too cold, excitement at this season being followed by weak growth, often made much earlier in the year than in a state of Nature. This is a usual stumbling-block for amateurs, who do not understand that their kindness may be disguised cruelty.

R. P. BROTHERSTON.
(Gardener to the Earl of Haddington.)
Tyninghame, Prestonkirk, N.B.

A COLUMN FOR THE CURIOUS

THE DUKE OF WELLINGTON AND HIS GARDENER.—Readers may find some interest in the following cutting from an unknown newspaper, which I came upon lately in turning out some papers relating to the Iron Duke. As the said newspaper must have been published before the Duke's death in 1852, no question of copyright can arise.—HERBERT MAXWELL, *Monreith.*

"*The Gardener at Walmer Castle.*—We must not forget the garden, abounding in flowers not rare nor *recherché*, but rich, luxuriant, and abundant; and the pride of the lawn, a noble lime tree, which the Duke declares is the finest in the world, and which, just bursting into flower when we saw it, will now be flinging its luxuriant aroma far and wide. Still less must we forget the gardener—the Duke's own especial gardener, for so he certainly is—a fine, healthy, happy, handsome, elderly man. He was at the battle of Waterloo, and his regiment was disbanded afterwards, and the Duke, for reasons good, doubtless, proposed to him to take the situation of head gardener at Walmer. He demurred—as much as a true soldier could presume to do at the decree of his commanding officer—for by his own especial declaration he did not know a moss-rose from a cabbage; but the Duke was peremptory, and he could but obey orders. 'But now,' he said, 'I get on pretty well.' 'And like it?' 'Oh yes.' 'But suppose war were to break out, should you be a soldier again?' 'Why, that would depend upon the Duke; if he said I must go, of course I must.' 'But how did you manage when you first came here?' 'Why, as well as I could; but I was rather awkward.' 'Perhaps you studied hard—read a good deal?' 'No, I didn't read at all.' 'You looked about you, then?' 'Why, yes; I did.' 'And you get on very well?' 'Why, yes; but I'm plagued sometimes; the names of the flowers puzzle me sadly.' 'And what does the Duke say to that?' 'Oh, I have him there, for he doesn't know them himself.'"

"JERUSALEM" ARTICHOKES.—Mr. Engleheart's very interesting note on this point is, I fancy, the first plausible suggestion as to the origin of the name "Jerusalem." The origin from "Girasole" has been adopted by many learned authors, including even Thomas Love Peacock, who makes Dr. Opimian in "Gryll Grange" adopt this theory. A story exists that it was first brought from Italy to this country; but Parkinson, whose "Paradisus" was written in 1629, gives the following information, which throws an interesting light on the point: "The Potatos of Canada (Which hath diuers names given it by diuers men) as Bauhinus upon Mathiolus calls it Solanum tuberosum esculentum, Pelleterius of Middleborough in his Plantarum Synonymia Heliotropum Indicum tuberosum, Fabius Columna in the second part of his Phytobalanos Flos Solis Farnesianus, sive Peruanus tuberosus: We in England, from some ignorant and idle head, haue called them Artichokes of Jerusalem only because the roots being boyled

is in taste like the bottom of an artichokes head: but they may most fitly be called Potatoes of Canada because their rootes are like in forme, colour, and taste like unto the Potatoes of Virginia, but greater, and the French first brought them from Canada into these parts . . , ." It is rather singular that though only introduced, according to report, in 1617, Parkinson should say later on: "The Potatos of Canada by reason of their great increasing groone so common here with vs at London, that even the most vulgar begin to despise them, whereas when they were first received among us, they were dainties for a Queene." Time does not permit a more detailed examination of this interesting question, but we find it was well known in France in 1610, according to Claude Mollet, and as the French explorers Cabot and Jacques Cartier had visited Canada in the late fifteenth century and the early sixteenth century, it seems probable that the date given for the introduction of this vegetable, 1617, may be wrong. I cannot claim to have dined all over Italy, but I must remark that the Jerusalem Artichoke is not quite so unknown to the Italians as Mr. Engleheart would lead us to suppose. It was known there in the early seventeenth century, in Tuscany at least, as "Tartufi di Canna" and "Cane Truffles," and is sold by seedsmen at the present time under the name of "Girasole tuberoso."—E. A. BUNYARD.

ANSWERS TO CORRESPONDENTS

MISCELLANEOUS.

NATURALISING ARUM LILIES (*A. H. R.*).—The best Arum Lily to try in your pond is Richardia africana. A very severe winter will probably kill it, but if a succession of mild winters are experienced it will very likely become well established. You cannot do better than you suggest in the way of planting. Take a hamper 2 feet to 3 feet across and 9 inches to 12 inches deep, and fill it with good loamy soil, into which a little leaf-mould has been mixed. Place your plant in the centre, then over the surface put turves grass downwards to prevent the finer soil being washed out. Sink in 12 inches to 18 inches of water. The best time to plant is April, just as new growth is beginning. There is no necessity to enclose the basket with wire-netting, for the plant is rather acrid and may escape injury from the pests mentioned. At the best wire-netting is an eyesore when placed around plants, and it would be as well to leave it until you see whether it is wanted or not. It is probable that the ducks will be the chief enemies, and if they attack the plants wire-netting is, of course, the best thing to employ.

TREATMENT OF AMARYLLIS (*E. B.*).—From your letter it would appear that the bulbs of Amaryllis were rested during the summer. This is quite contrary to the treatment which should have been accorded them. At that time they ought to have been growing freely and building up the substance of the bulbs, with the embryo flowers for the next season's display. Briefly, the treatment of Amaryllids, now known as Hippeastrums, is, as soon as the flowers are over, to keep them in the warmest part of the greenhouse, watering when necessary. Liquid manure and soot-water combined may with advantage be given about every fortnight. Care should be taken that it is not too strong, as two weak applications are much preferable to a single strong one. When growing they should be shaded from the hottest rays of the sun. By July a cold frame in a sunny spot is the best place for them, at the same time allowing a free circulation of air. Shade when necessary at first, gradually inuring the plants to full sunshine. They must be watered as before till the end of the summer or early autumn, when the leaves will commence to turn yellow, and then the supply must be lessened, finally discontinuing it altogether when the bulbs are totally dormant. They may be wintered in a structure where the temperature ranges from 45° to 60°. Until the end of January no water will be needed. After this a little may be given till growth recommences, when the supply must be increased. In the case of your bulbs we advise you to leave them till the end of January, then take them in hand, remove as much of the old soil as can be done without injuring the roots, and top-dress with a compost made up principally of loam, to which a little leaf-mould, bone-meal and silver sand has been added; water as above advised. As soon as the flower-stems show, some very weak liquid manure may be given every ten days, but better far do without it than give it strong. If the roots are in good condition they will not need dividing, but should be encouraged to grow after flowering by the application of stimulants as above advised. Repotting, if necessary, should be carried out immediately the flowers are over. In this case no stimulants must be given till the pots are well furnished with roots, though, of course, water must be applied when necessary. By no means give liquid manure now as you suggest.

PRUNING CORDON FRUIT TREES (*A. O.*).—The principle to adopt is to cut back all the weaker of the side shoots to within two buds of their base, and the stronger ones to within three buds of their base. Speaking generally, too many shoots are allowed to grow together in groups on the stems of cordon trees, with the result that they crowd one another out, preventing the full development and perfect ripening of the shoots. The time to correct this is in spring by rubbing off weak and superfluous shoots.

HOW TO GROW CELERY (*C. H. L. E.*).—To grow Celery well—and if it cannot be grown well it is better not to attempt its growth; it will only be courting failure—it should have deep loamy soil to grow in. It is more or less a water plant, and should receive liberal waterings in summer during dry weather. Sow the seed in a pot early in March and place on the shelf of a warm greenhouse. As soon as the young plants are 2 inches high, transplant into boxes of rich soil. The boxes should be 5 inches deep. Place a layer of well-rotted manure an inch deep in the bottom of the box before the soil is put in, and then fill with soil. Plant the seedlings 4 inches apart each way in these boxes, and then place the boxes on the shelf of a greenhouse and near the glass, growing the seedlings cool and sturdily, and attend carefully to their watering. Early in April place the plants in a cool frame, taking the light off during the day in fine weather and replacing at night (with air on) to protect from extreme cold. Early in May they will be fit to plant out. Plant in trenches 1 foot deep and 3 feet apart. Place well-rotted manure to the depth of 5 inches in each trench, and then dig it into the trench, mixing it with the soil; then plant the Celery plants 6 inches apart in the trench, pressing the soil firmly round their roots and giving each plant a good watering. Write us again in May and we will gladly help you further.

NAMES OF PLANTS.—*Boris.*—1, Escallonia species; 2 and 4, Dabœcia polifolia; 3, probably a seedling, Vaccinium Vitis-Idæa; 5, Calluna vulgaris; 6, Erica vagans.——*A. E. M.*—1, Cannot identify; 2, Cassandra calyculata; 3, Sedum album brevifolium; 4, Euonymus radicans variegata; 5, Arabis alpina variegata; 6, cannot identify; 7, Cerastium Biebersteinii. Kindly send better specimens. It is impossible to name with any degree of certainty from such scrappy material.

NAMES OF FRUIT.—*Springfield.*—3, The Queen; 6, Cornish Gillyflower; 12, Catillac; 18, Souring; 20, Tower of Glamis. The remainder of the fruits were decayed; all were badly damaged in the post.——*M. C K.*—Large Apple, Adam's Pearmain; smaller variety, Stone's Apple.——*M. L. W., Herts.*—Golden Spire.——*E. R. M.*—Winter Greening or Northern Greening.——*C. M. B.*—1, Cox's Orange Pippin; 2, Ribston Pippin; 3, Sweet Laden; 4, not recognised; 5, probably King's Seedling; 6, White Nonpareil.

Death of Mr. Walter T. Ware.—As we are going to press we learn with regret of the death, after a long illness, of Mr. Walter T. Ware, Inglescombe Nurseries, Bath. Further reference will be made to his work in our next issue.

Scottish National Union of Allotment Holders. A largely attended and representative meeting was held in Dowell's Rooms, Edinburgh, on the afternoon of December 15 to consider the advisability of forming a National Union of Scottish Allotment Holders. The chair was occupied by Mr. James Scott, S.S.C., Edinburgh, Secretary of the Scottish Smallholders' Association, Limited. Mr. Scott made an excellent statement of the objects of the meeting, referring, among other matters, to the formation of the English Union and the various important questions in which the influence of such an organisation would be effective in dealing with such subjects as length of tenure and other points of crucial importance to the success of allotments. Mr. Orr, Hamilton, moved a resolution in favour of the formation of a Scottish National Union of Allotment Holders, this being seconded by Councillor Mackenzie, Bo'ness. A committee, with Mr. Scott as interim secretary, was formed to frame a constitution.

EAST ANGLIAN HORTICULTURAL CLUB.

THE annual meeting of this club was held on December 12 at the Boar's Head Hotel, Norwich. The annual report presented by the secretary, Mr. G. Todd, showed that in spite of the large number of members who had joined the forces, the membership now stands at 147. The finances were in a sound condition, £4 11s. 4d. being added to the already substantial balance. The club had done useful work in connection with the local schemes for food production and had collected and despatched good consignments of fruit and vegetables for the Fleet. The officers elected for the year were as follows: President, Mr. Herbert Perry; acting vice-president, Mr. W. Shoesmith; secretary, Mr. G. Todd, 12, Royal Arcade, Norwich; and a good committee. Special prizes and a fine list of lectures and essays for 1918 were announced.

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For the Poultry-Keeper

CONDUCTED BY

W. POWELL-OWEN

I AM taking two quite extremes for my subject-matter this week, viz., goats and Bantams, and, incidentally, I am bringing in a little hard-working donkey called Jenny.

Goats and Poultry.—Mrs. St. Johnston of the Annandale Poultry Farm, Boswell Road, Sutton Coldfield, sends me several snapshots to show how goats and a donkey can be made useful on a small poultry farm. Mrs. St. Johnston is a well-known utility breeder of poultry, rabbits and goats, and runs a special school of utility poultry culture for pupils. Here is an extract from her letter:

"The goats are put to graze the poultry runs, which all through the summer is a great labour-saver, because in a large run the grass grows so long and so quickly that it would have to be frequently mown. With the shortage of labour there is no time for frequent mowings." My correspondent then points out the usefulness of a donkey on the poultry farm. She adds: "Jenny (and her coster cart) carries food and water all over the farm, thereby saving time and labour. She works all day—heavy and light loads—and never asks for a rise in wages."

Labour-Saving Devices.—Where poultry are kept there is always plenty of work to be done, but the majority of poultry-keepers do not trouble to put into practice labour-saving devices. In my writings in THE GARDEN I have from time to time recommended labour-saving methods, and commend this highly important matter to the notice of all my readers. I am not in favour of the poultry-keeper adopting a particular method merely because time or labour or both are saved thereby. *Results* must also be borne in mind. A poultry-keeper, for instance, might leave the grain in the bucket for the fowls to help themselves! It would save time, certainly, but what of the poor fowl which might perchance be imprisoned when the bucket got overturned? To carry out Mrs. St. Johnston's plan, it would be a good idea to have two runs or enclosures to each house, such as I have before recommended for "resting" purposes. While the goats were attending to one of the two runs, the fowls could occupy the other. One of my friends makes use of sheep in this way. Every other run is thrown open for the sheep to enter and graze while the fowls are in the other enclosures. When the grass has been nibbled short, the fowls are moved into the runs, while the sheep pay attention to those vacated.

Eggs for Children.—Mrs. White of Southampton asks advice on a matter that I have not so far dealt with in THE GARDEN. Her letter reads:

"I am wanting to keep three or four pullets to lay *small* eggs, as I have a little boy who needs a new-laid egg daily. The ordinary egg (Houdan, Leghorn, &c.) is too large and lasts three days.

"We have a sheltered, warm garden, but could only allow limited run, so that it must be a kind that takes kindly to confinement. I would be glad of any advice, but should say that I have a general knowledge of poultry-keeping."

The questions I am so often asked to answer concern the "big" egg, so that it is a pleasing change (even poultry experts like a *varied* menu) to discuss the "little" egg. I could recommend to my querist many strains known to me as useful only for their small eggs, but that would be no good advertisement to the breeders concerned. It is not in the large breeds of fowls that Mrs. White will find her ideal, but rather in one of the many handsome varieties of Bantams.

Bantams for Utility.—It has always been a matter of surprise to me why the miniatures have not become more popular from the utility viewpoint. As regards exhibition or fancy points, Bantams command a very large following, and I have visited many a show where well over a thousand of the "wee uns," as the fanciers call them, have been in competition. The prize-bred specimen, however, is not the one I have in mind. The exhibitor is not concerned with eggs, nor does he feed for eggs. He is out only for size, or rather lack of it; the smaller the bird, the more valuable it is. He therefore mates up his pens, rears his chicks, and feeds his birds with that one object in view, viz., "keeping down size." Wet mash is taboo, because it means extra size, looseness of feather (in some breeds) and egg-production; hard grain *in toto* (and particularly rice) is the usual rule of feeding from chickenhood to maturity. But why does not the utility man feed and breed for egg-production just in the same way as he manages the large breeds? He can have as his ideal a "largish" Bantam, most of the breeds of which are only miniatures of their bigger brethren. Resort can be had, therefore, to a bird of the large breed to increase the size somewhat.

For the Juniors.—Bantams are ideal little pets for children, for whom the eggs are of just the correct size. The little birds are easily accommodated, requiring but small houses and runs, and costing little for food. It is the latter item that should be the means of bringing the breeds of Bantams to the front just now, and, provided "utility" specimens are purchased, it is surprising the number of eggs they lay. There are many good utility strains to be procured in those varieties that have not been bred exclusively for fancy points. They are quite easy to manage, and any bright youngster will keep Bantams healthy, profitable and prolific if given feeding formulas to follow. Feeding can be on exactly the same lines as those adopted for the large breeds, the grains and meals being identical for each, although, as regards grain, maize should always be kibbled. Smaller quantities will naturally be needed at each meal, owing to the size of Bantams as compared with that of the large breeds of fowls.

Breeds of Bantams.—In the matter of selecting a breed the would-be keeper has ample choice to suit his tastes, for practically every large breed of fowls has its counterpart in miniature. One can choose from self-coloured, pencilled, laced, spangled, barred, feather-legged, clean-legged, crested or frizzled breeds—quaint and otherwise. For egg-production I should narrow my selection to (1) Spangled Old English Game, (2) Black-red Old English Game, (3) Black Rosecombs, and (4) White or Black Wyandottes. Personally, I prefer the Spangled Old English Game, and this is the breed I recommend my correspondent to buy. Pullets of May hatching, 1917, are to be preferred, and if breeding operations are anticipated, it is usual to run from three to five females to each male. The eggs take from nineteen to twenty-one days to hatch, and it is customary to entrust the eggs to a small *ordinary* hen or a Silkie. The latter is a "go-between," being too big for a Bantam and too small for a large fowl. It is a dainty little bird, covered with silky hair instead of feathers, and is noted for its reliability as a broody and mother, being very gentle and careful. On many farms a cross between the Silkie and Wyandotte is retained for the sole purpose of providing broodies, and one of my friends rears over a thousand chicks each season, using Silkie-Wyandotte broodies exclusively. Bantams are not always reliable sitters, but there are, of course, exceptions.

Housing the Miniatures.—Any design of house and run will suit the miniatures, and little expense is necessary by way of plant. A structure 4 feet high in front, 3 feet at back, and from 9 feet in length will do nicely for from six to ten specimens. The selected design for a backyard can be on the same lines as the house and run usually erected in gardens for the larger kinds. If a wall is handy, this can represent the back of both house and run. Small-meshed wire-netting is usually employed where Bantams are kept, and the internal fittings in the sleeping-house can be planned on the same lines as those for the larger breeds of fowls.

GOATS ON A POULTRY FARM.

Snapshot taken on the Annandale Poultry Farm, Boswell Road, Sutton Coldfield, of which Mrs. St. Johnston is the proprietress. (See text.)

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN Poultry Expert, will be pleased to answer, free of charge, any questions dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of THE GARDEN, 20, Tavistock Street, Strand, W.C. 2.